ORDER NO. SD7709-1271

Service Manual

QUARTZ Synthesizer Direct Drive Turntable System

SL-1500MK2 (M, MC)

- The model SL-1500MK2 (M) is available in America only.
- The model SL-1500MK2 (MC) is available in Canada only.

SPECIFICATIONS (Specifications are subject to change without notice for further improvement)

General	
Power supply	AC 120 V, 50 or 60 Hz
Power consumption	12 W
Dimensions (H x W x D)	14.5 x 45.3 x 38.4 cm (5-45/64 x 17-45/64 x 15-7/64 inches)
Weight	11.8 kg (26.0 lb)
Turntable section	
Type	Quartz-phase-locked control direct drive turntable with quartz synthesizer pitch control, Manual play
Drive method	Direct Drive
Motor	Brushless DC motor
Drive control method	Quartz-phase-locked control
Turntable platter	Aluminum die-cast, diameter 33 cm (13"), weight 2.5 kg (5.5 lb.)
Moment of inertia	340 kg·cm^2 (116 lb·in^2)
Turntable speeds	33-1/3 and 45 r.p.m.
Turntable speed fine adjustment	Adjustable up to ±9.9% in 0.1% increments by digital indication
Starting torque	1.5 kg·cm (1.3 lb·in)
Build-up characteristics	90° or 1/4 rotation to 33-1/3 rpm
Braking system	Electronic brake
Speed fluctuation due to load torque	0% within 1.5 kg·cm (1.3 lb·in)
Speed drift	Within 0.002%
Wow and flutter	0.025% WRMS (JIS C5521) ±0.035% weighted zero to peak (DIN 45507)

Rumble	−50 dB (DIN 45539A) −73 dB (DIN 45539B)
Tonearm section	
Type	Gimbal suspended universal "S" shaped tubular arm, static-balanced type
Effective length	230 mm (9-1/16")
Overhang	15 mm (19/32")
Tracking error angle	+3° at the outer groove of 30 cm (12") record +1° at the inner groove of 30 cm (12") record
Offset angle	21.5°
Friction	Less than 7 mg (lateral, vertical)
Effective mass	22 g (with a cartridge weighting 6 g at 1.25 g stylus pressure)
Tonearm height adjustment	In 1mm steps to a range of 6 mm
Adjustable stylus pressure range	0 ~ 3 g
Cartridge weight range	5-11 g
Cartridge mounting dimensions	12.7 mm (1/2") mounting space
Headshell terminal lug	1.2 mm, for 4-pin terminal
Headshell weight	9.5 g

Weights and dimensions shown are approximate.

Technics
by Panasonic

Panasonic Company
Division of Matsushita Electric
Corporation of America
One Panasonic Way, Secaucus,
New Jersey 07094

Matsushita Electric of Hawaii, Inc.
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Hawaii 96817

Matsushita Electric of Canada Ltd.
40 Ronson Drive, Rexdale,
Ontario, Canada M9W 1B5

FEATURES

Encounter two separate isolation stages. The first stage effectively damps out harmful external vibrations which may reach the unit through its resting surface. The all-important turntable, motor and tonearm assembly are then supported on a second isolation system. These isolators are specially designed with material and springs of calculated, finely-tuned elasticity to absorb external vibrations.
Isolation from feedback lets you enjoy clear, transparent sound even at high volume levels.

Technics unique motor construction in which the rotor of the motor is integrally formed with the turntable.

High torque motor delivering 1.5kg-cm makes it possible to reach 33-1/3 r.p.m. from standstill within 0.7 sec. (1/4 rotation) and to effect instantaneous speed change. (Fig. 1).

Superior load characteristic of 0 rotational deviation even at a stylus pressure of 300 g. (Fig. 2).

High performance with wow and flutter of only 0.025% (JIS C5521) and rumble of −73 dB (DIN 45539B).
Since the development of the DD turntable, Technics has continually strived for further improvement of player performance and has introduced numerous high performance models on the market.
The SL-1500MK2 series is brought into being by combination of experience and research.
The characteristic values of rumble −73 dB (DIN 45539B) and wow and flutter of 0.025% (W.R.M.S JIS C5521) by far exceed the standards to which record albums are made.

Quartz Controlled Rotation Accuracy
The SL-1500MK2 utilizes the oscillation of a quartz crystal as a reference signal or source. This oscillation is not affected by temperature change or power fluctuations. By synchronizing the rotation of the turntable platter accurately to the reference signal, speed drift of the SL-1500MK2 is held within ±0.002%. This means that for a record with a playing time of 30 min, total playing time variation can amount to no more than 0.036 sec. This stable and accurate rotation sets a new standard of precision.
The accuracy under controlled operating conditions as in a listening room is about ±0.00001% as shown in Fig. 3.

Highly sensitive universal tonearm.
For the finest tracking sensitivity, the tonearm rests in a gimbal suspension equipped with two pairs of low friction pivot bearings. Gimbal suspension and low tonearm mass means that accurate tracking is possible at tracking forces as low as 0.25 grams. With enhanced rotational sensitivity of 7 mg. the tonearm is allowed free, gyroscopic movement to ensure flawless balance during tracking. The longer-than-usual effective tonearm length (9-1/16" or 230 mm, stylus to pivot) contributes to the arm's low tracking error, and this in turn facilitates the design of the anti-skating control for precise and reliable tracking. With this design, a single precise anti-skating scale counteracts side thrust for all types of styli.

Arm height is adjustable within a range of 6 mm to accomodate varying cartridge dimensions.

Resonance dampened headshell with unique overhang adjuster.

Low capacitance phonocables.

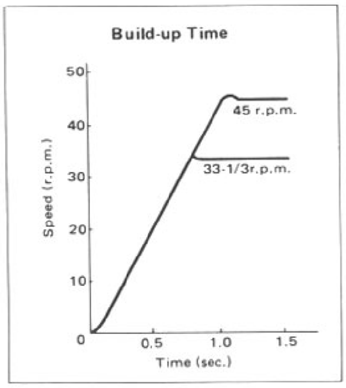


Fig. 1

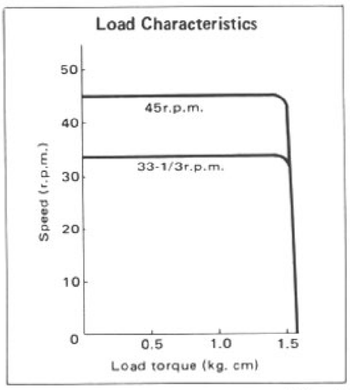


Fig. 2

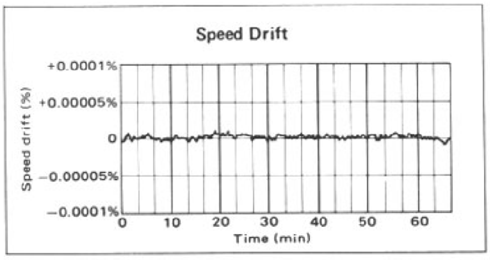


Fig. 3

■ CROSS SECTION OF MOTOR PORTION AND DOUBLE INSULATOR

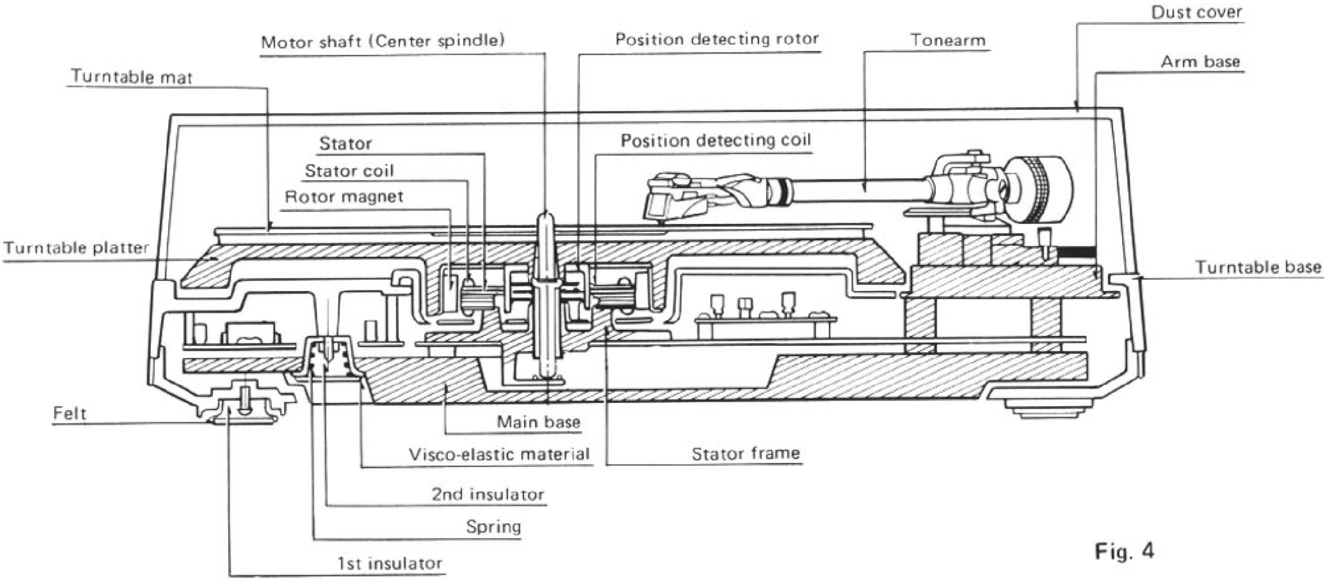

Dust cover
Motor shaft (Center spindle)
Position detecting rotor
Tonearm
Arm base
Turntable mat
Stator
Stator coil
Rotor magnet
Position detecting coil
Turntable platter
Turntable base
Felt
Main base
Visco-elastic material
Stator frame
2nd insulator
Spring
1st insulator

Fig. 4

■ PARTS IDENTIFICATION

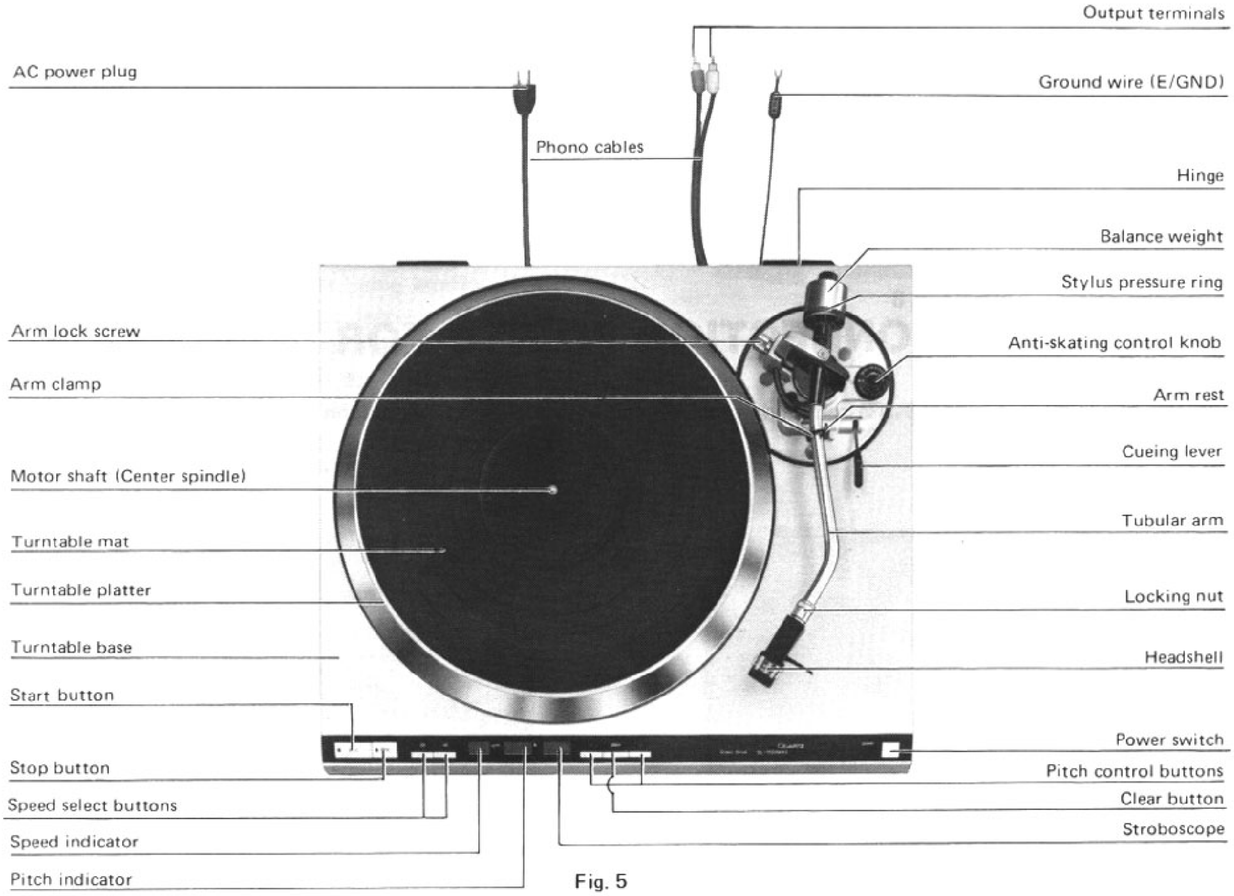

Output terminals
AC power plug
Ground wire (E/GND)
Phono cables
Hinge
Balance weight
Stylus pressure ring
Arm lock screw
Anti-skating control knob
Arm clamp
Arm rest
Cueing lever
Motor shaft (Center spindle)
Tubular arm
Turntable mat
Turntable platter
Locking nut
Turntable base
Headshell
Start button
Power switch
Stop button
Pitch control buttons
Speed select buttons
Clear button
Speed indicator
Stroboscope
Pitch indicator

Fig. 5

■ TO REMOVE CABINET AND BOTTOM COVER

1. Remove headshell and balance weight.
2. Clamp tone arm to the arm rest.
3. Remove turntable platter.
4. Close dust cover.
5. Turn unit upside down taking special care not to damage or scratch the dust cover.
6. Remove the 7 screws from bottom cabinet (Fig. 6).
7. Remove the 4 screws from main base (Fig. 7).
8. Holding the player firmly with both hands, to prevent separation of upper section (turntable base) from lower section (main base), turn it carefully upwards.
9. Remove dust cover.
10. Remove the 6 screws from the panel cover (Fig. 8).
11. Unplug the 2 plug-in connectors and 1 cord clamp (Fig. 9).
12. To remove the turntable base from the main base bottom section, turn cueing lever upward (cueing position) and move tone arm towards center of spindle. Top section can be lifted up easily.
13. To reassemble, perform steps 1 through 12 in reverse.

Note:

The turntable horizontally to the panel face is already adjusted before shipment.

If deviated, correct it by means of the adjust screws using a 5 mm box spanner.

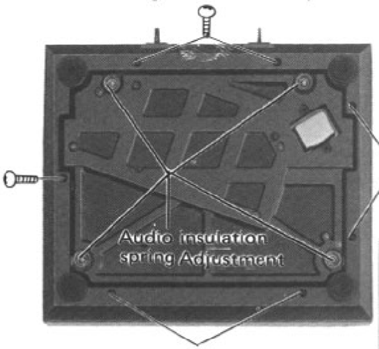


Fig. 6

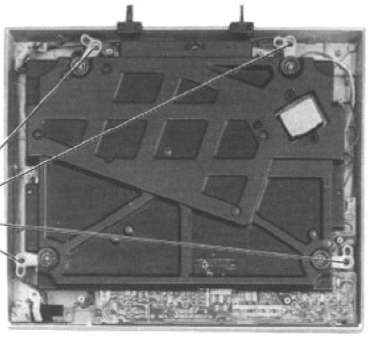


Fig. 7

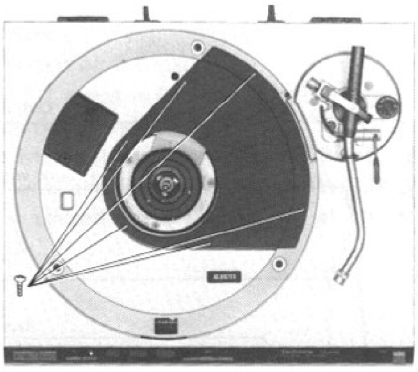


Fig. 8

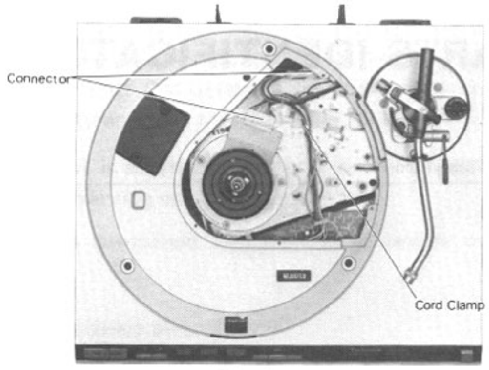


Fig. 9

■ CONNECTOR CONNECTION POINTS FOR INSPECTION

Connect the disassembled main unit and main base as shown in the Figure below.

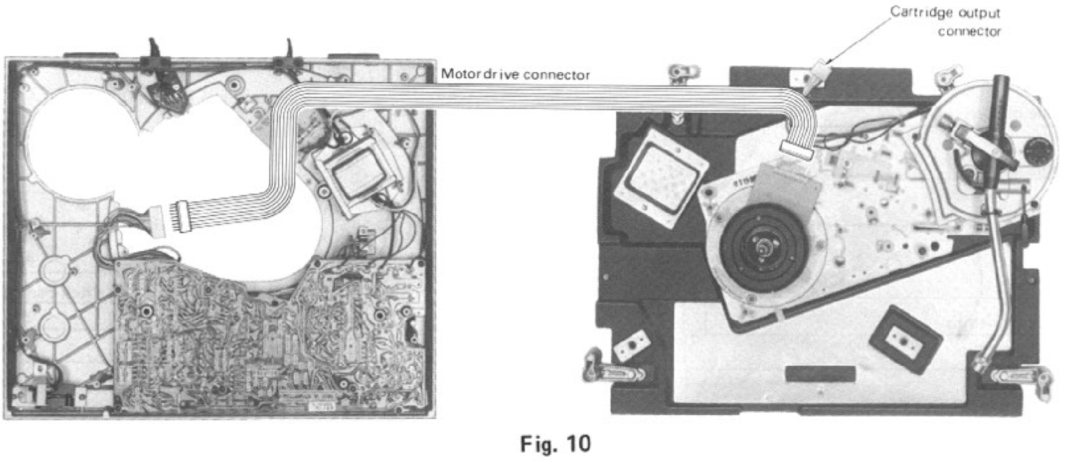


Fig. 10

■ ADJUSTMENTS-1

Adjustment of the arm height. (See Fig. 11, 12)

- This tonearm has been locked in the highest position before shipping from the factory, adjust the arm height according to your cartridge height.
- Loosen the arm lock screw. And push the arm pivot bearing support downward until the tonearm is paralled with the record surface.

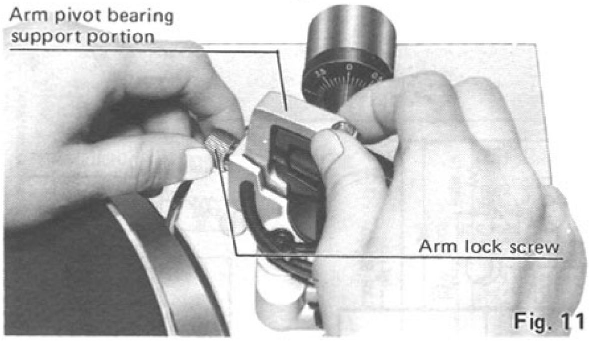


Fig. 11

- If the cartridge height is 18 mm as shown in figure 11, align the fourth line ("18") on the gimbal support portion with the arm base edge as shown in the picture. (See Fig. 12)

  The arm height can be ajusted in 1 mm steps over a range of 6 mm.

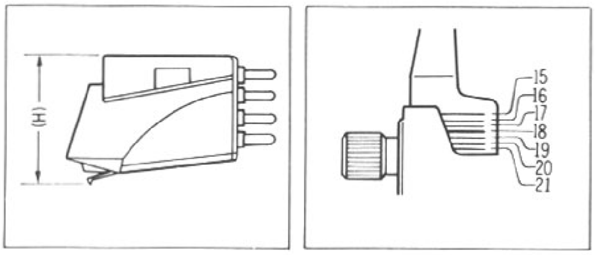


Fig. 12

Pitch control (turntable speed fine adjustment)

The Quartz Synthesizer system is being employed for the first time in the world. A high degree of pitch control accuracy over a wide range (±9.9%) in 0.1% increments can be obtained, with the quartz perfectly locked. The pitch variations which are clearly indicated by the LED digital indicator provide you with accurate and easy selection.

- The pitch control can be selected in increments of 0.1% which is below the threshold of human perception. This function can be very effective for minor extention of reduction of broadcasting time in professional applications.

- The pitch control also enables you to accurately and precisely tune musical instruments, and by varying the pitch slightly to obtain a musical note from phono discs.

  For a half-tone change:

  +5.9% (#)
  –5.6% (b)

- Another feature of the variable pitch control over a wide range of ±9.9% is that it makes singing along with a melody easy for a choros or playing a phono disc for accompaniment only.

  By pressing the clear button which is located between the "+" and "–" pitch buttons, you can quickly return the set to normal playing speed.

Adjustment of the muting time and arm height.
(See Fig. 13 and 14)

This unit employs "muting switch" combination with arm lift to cut off the irritating noise when the stylus is set down on or lifted up from the record. You can adjust the muting time by adjusting the arm lift height (distance between the stylus tip and record surface when cueing lever is raised).

If the clearance becomes too narrow or too wide because of the physical size of the different cartridge on the market, turn the adjustment screw screw clockwise or counterclockwise, while pushing the arm lift down.

If the noise is heard

Adjust the arm lift height adjustment screw clockwise to reduce the distance between the record and stylus tip.

If the sound is not heard even after the stylus tip sets down on the recorded groove

Adjust the screw counterclockwise to increase the distance.

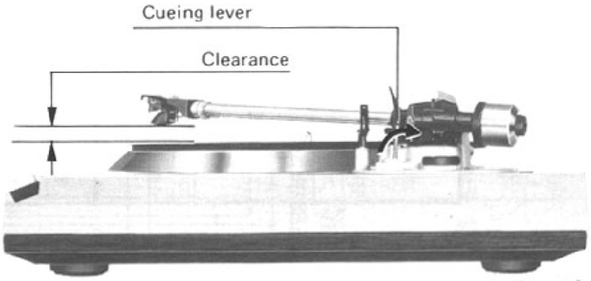


Fig. 13

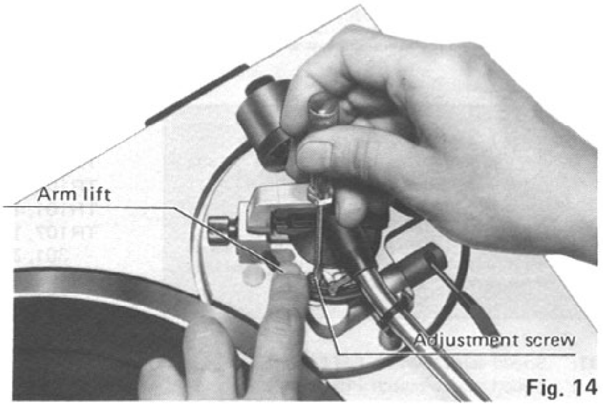


Fig. 14

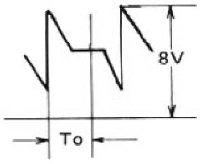
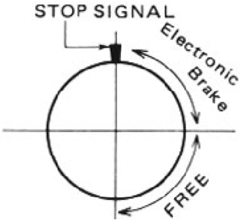
Note:

As the adjusting screw has a hexagon head, be sure to make the adjustment while depressing the arm lift, and be sure that the hexagon head retract correctlys into the arm lift when released.

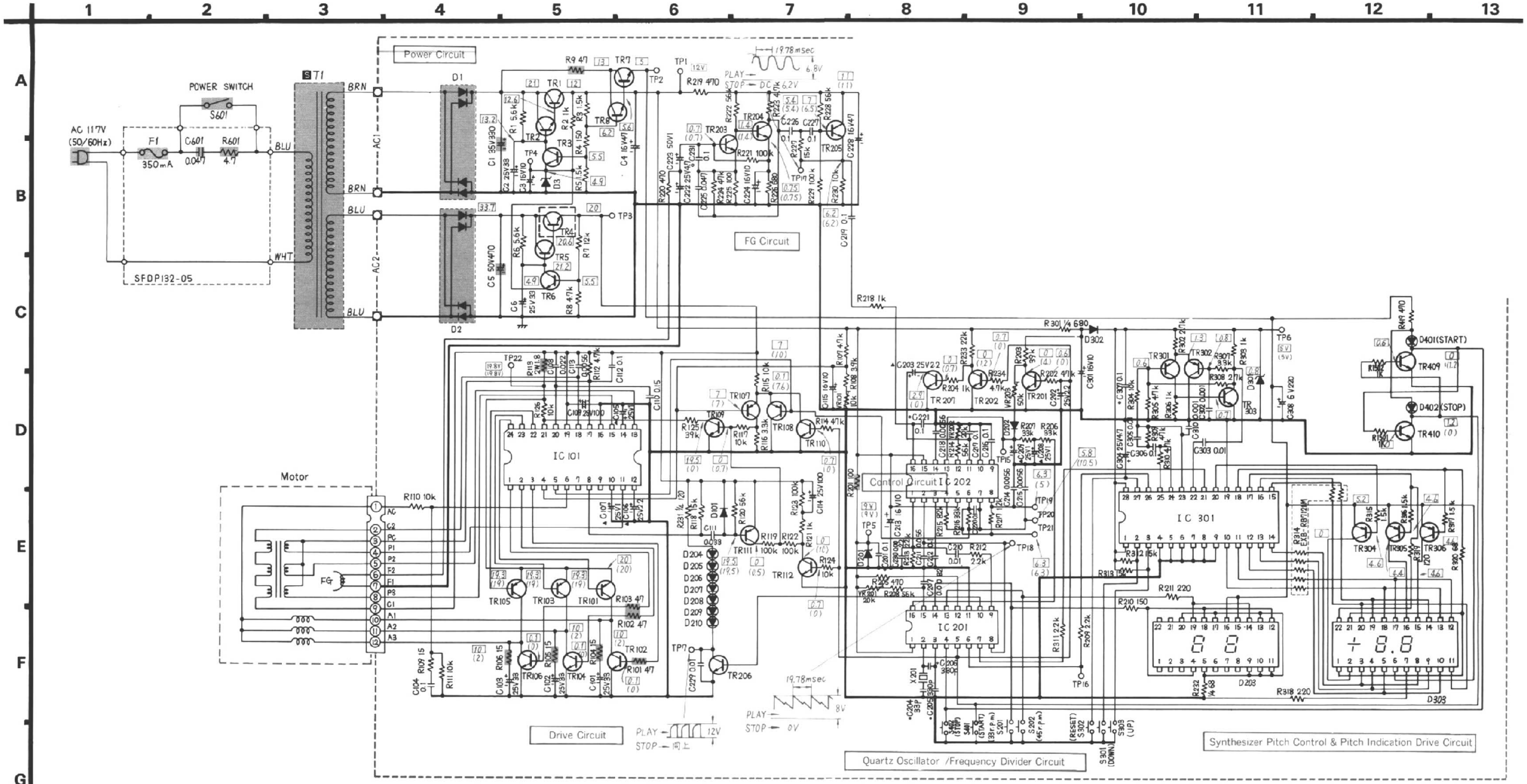
■ ADJUSTMENTS-2

Adjustment Points of Electrical System

NOTE: Make the following adjustments after replacing parts such as IC's, transistors, diodes, etc.

	Adjustment	Connection Points	Adjustment Point	Adjustment Method
A	Adjustment of standard voltage (VS)	DC voltmeter or Oscilloscope ⊕→ TP15 ⊖→ GROUND	**VR201**	Turn start switch on to begin turntable rotation. For 33 rpm . . . adjust VR201 for DC 2.10V ±0.05V. For 45 rpm . . . confirm that there is DC 2.80 ~ 2.86V.
B	Adjustment of current source (IR)	DC voltmeter or Oscilloscope ⊕→ TP19 ⊖→ TP21	**VR202**	Turn start switch on to begin turntable rotation. Adjust VR202 for 0V potential difference of TP19 and TP21.
C	Tracking adjustment	Oscilloscope ⊕→ TP18 ⊖→ GROUND	**VR101**	**TP18 waveform**  For 33 rpm . . . adjust VR101 for $8 \leq T_0 \leq 8.5$ ms. For 45 rpm . . . confirm that $5.8 \leq T_0 \leq 6.4$ ms.
D	Braking adjustment	——	**VR203**	 Adjust VR203 for complete stop within 90° ~ 180° after stop signal initiated. (Turntable becomes free a few seconds after stop.)

Schematic Diagram ...... Model SL-1500MK2 (This schematic diagram may be modified at any time with the development of new technology.)


1
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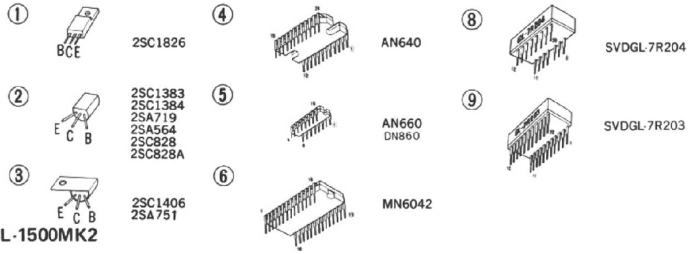
11
12
13
A
B
C
D
E
F
G
AC 117V (50/60Hz)
POWER SWITCH
S601
F1 350mA
C601 0.047
R601 4.7
SFDP132-05
T1
BRN
BLU
WHT
AC1
AC2
Power Circuit
D1
D2
TR1
TR2
TR3
TR4
TR5
TR6
TR7
TR8
TP1
TP2
TP3
FG Circuit
PLAY
STOP
19.78msec
Motor
FG
AC
C2
PC
P1
P2
F2
F1
P3
G1
A1
A2
A3
IC 101
Drive Circuit
TR101
TR102
TR103
TR104
TR105
TR106
TR107
TR108
TR109
TR110
TR111
TR112
TR206
D204
D205
D206
D207
D208
D209
D210
Control Circuit IC 202
IC 201
X201
TP5
TP7
TP15
TP16
TP18
TP19
TP20
TP21
TP22
S201 (33r.p.m.)
S202 (45r.p.m.)
S301 (DOWN)
S302 (RESET)
S303 (UP)
S401 (START)
S402 (STOP)
Quartz Oscillator /Frequency Divider Circuit
IC 301
TR301
TR302
TR303
TR304
TR305
TR306
TR409
TR410
D401 (START)
D402 (STOP)
D203
D303
TP6
Synthesizer Pitch Control & Pitch Indication Drive Circuit

■ TERMINAL GUIDE


①
2SC1826
BCE
②
2SC1383
2SC1384
2SA719
2SA564
2SC828
2SC828A
E C B
③
2SC1406
2SA751
E C B
④
AN640
⑤
AN660
DN860
⑥
MN6042
⑧
SVDGL-7R204
⑨
SVDGL-7R203

IMPORTANT SAFETY NOTICE

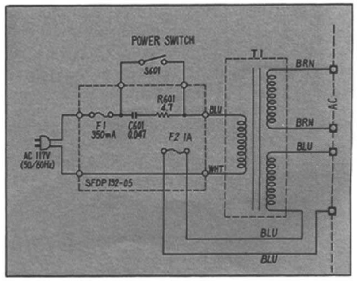
THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR SAFETY.
WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTUR'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.

Notes:

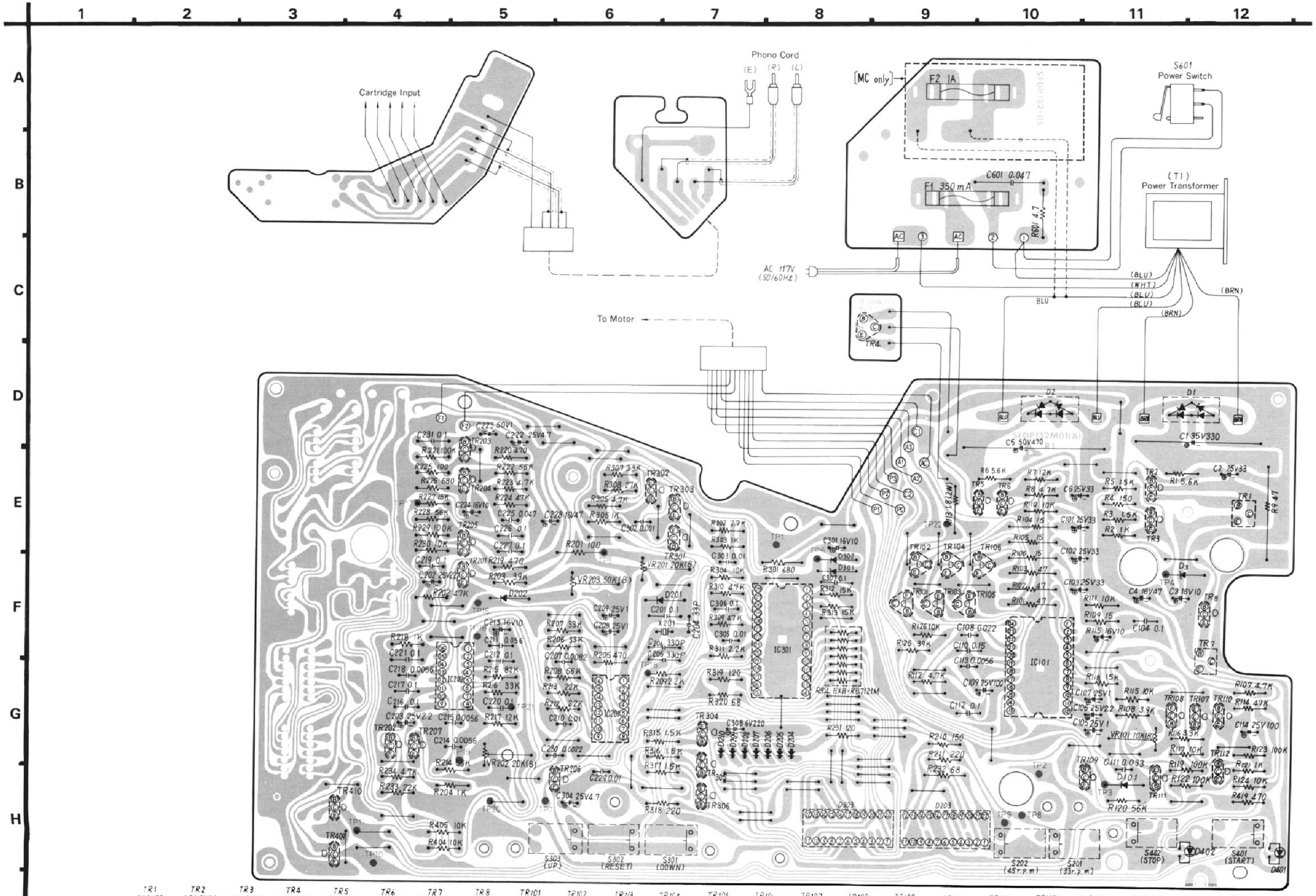
1. **S201:** Speed select switch (33 r.p.m.)
2. **S202:** Speed select switch (45 r.p.m.)
3. **S301:** Pitch Control switch (Down)
4. **S302:** Pitch Control switch (Reset)
5. **S303:** Pitch Control switch (Up)
6. **S401:** Start switch in "**off**" position.
7. **S402:** Stop switch in "**off**" position.
8. **S601:** Power switch in "**off**" position.
9. The voltage values entered are the values measured from the chassis with a standard tester that has an internal resistance of 100KΩ/V.

TR1, 4, 7	2SC1826
TR2, 3, 6, 8	2SC1328-T
TR5	2SC1384
TR102, 104, 106	2SC1406
TR101, 103, 105	2SA752
TR107, 107, 111 301, 302,	2SA666AI -R
TR109, 110, 112, 201 ~ 207, 303 409, 410	2SC1328-T
TR304 ~ 306	2SA719
IC101	AN640
IC201	DN860
IC202	AN660
IC301	MN6042
D1, 2	SVDRIRBA20
D3, 301	SVDRD5.1EBS
D101, 202, 302	MA150
D201	SVDR9.1EBS
D203	SVDGL-7R204
D204 ~ 210	SVDSR105C
D303	SVDGL-7R203
D401, 402	SVDSR105C

•Product for Canada (MC)


POWER SWITCH
S601
AC 117V (50/60Hz)
F1 350mA
C601 0.047
R601 4.7
F2 1A
SFDP132-05
T1
BLU
WHT
BRN
AC

Printed Circuit Board SL-1500MK2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12
A
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C
D
E
F
G
H
I
Cartridge Input
Phono Cord
(E) (R) (L)
AC 117V (50/60Hz)
[MC only]
F2 1A
F1 350mA
C601 0.047
R601 4.7
SFDP132-05
S601
Power Switch
(T1)
Power Transformer
(BLU)
(WHT)
(BLU)
(BLU)
(BRN)
(BRN)
BLU
To Motor
TR4
D1
D2
C1 35V330
C5 50V470
IC101
IC301
IC201
IC202
S303 (UP)
S302 (RESET)
S301 (DOWN)
S202 (45r.p.m)
S201 (33r.p.m)
S402 (STOP)
S401 (START)
D401
D402
D203
D303
TR410
TR409

TR1	2SC1826
E	12 V
C	21 V
B	12.6 V

TR2	2SC828A
E	12.6 V
C	21 V
B	13.2 V

TR3	2SC828A
E	4.9 V
C	13.2 V
B	5.5 V

TR4	2SC1826
E	20 V
C	33.7 V
B	20.6 V

TR5	2SC1383
E	20.6 V
C	33.7 V
B	21.2 V

TR6	2SC828A
E	4.9 V
C	21.2 V
B	5.5 V

TR7	2SC1826
E	5 V
C	13 V
B	5.6 V

TR8	2SC828A
E	5.6 V
C	13 V
B	6.2 V

TR101	2SA751
E	20 V
C	10 V
B	19.3 V

TR102	2SC1406
E	0 V
C	10 V
B	0.1 V

TR103	2SA711
E	20 V
C	10 V
B	19.3 V

TR104	2SC1406
E	[illegible]
C	[illegible] V
B	0.1 V

TR105	2SA751
E	20 V
C	10 V
B	19.3 V

TR106	2SC1406
E	0 V
C	10 V
B	0.1 V

TR107	2SA564
E	0.1 V
C	0 V
B	7 V

TR108	2SA564
E	0.1 V
C	0 V
B	7 V

TR109	2SC828
E	0 V
C	19.5 V
B	0 V

TR110	2SC828
E	0 V
C	0.1 V
B	0.7 V

TR111	2SA564
E	20 V
C	0 V
B	19.5 V

TR112	2SC828
E	0 V
C	0 V
B	0.7 V

TR201	2SC828
E	0 V
C	0 V
B	0.6 V

TR202	2SC828
E	0 V
C	0 V
B	0.7 V

TR203	2SC828
E	0 V
C	1.4 V
B	0.7 V

TR204	2SC828
E	0.75 V
C	5.4 V
B	1.4 V

TR205	2SC828
E	6.2 V
C	11 V
B	7 V

TR206	2SC828
E	—
C	—
B	—

TR207	2SC828
E	0 V
C	2.9 V
B	0 V

TR301	2SA564
E	1.3 V
C	0.7 V
B	0.6 V

TR302	2SA564
E	1.3 V
C	0 V
B	0.8 V

TR303	2SC828
E	0 V
C	0.8 V
B	0.7 V

TR304	2SA719
E	5.2 V
C	0 V
B	4.6 V

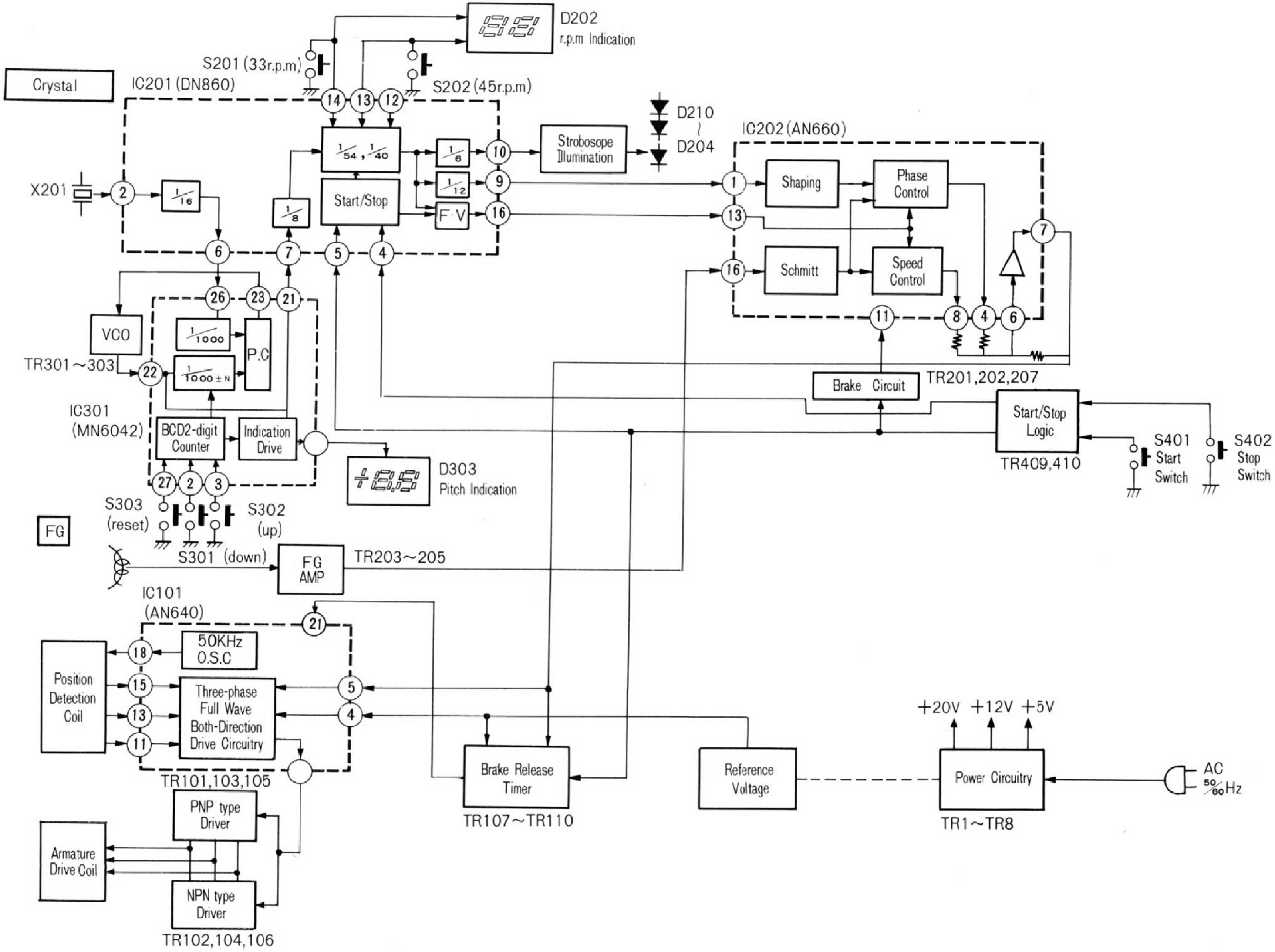
TR305	2SA719
E	5.2 V
C	4.4 V
B	4.6 V

TR306	2SA719
E	5.2V
C	4.6V
B	4.6V

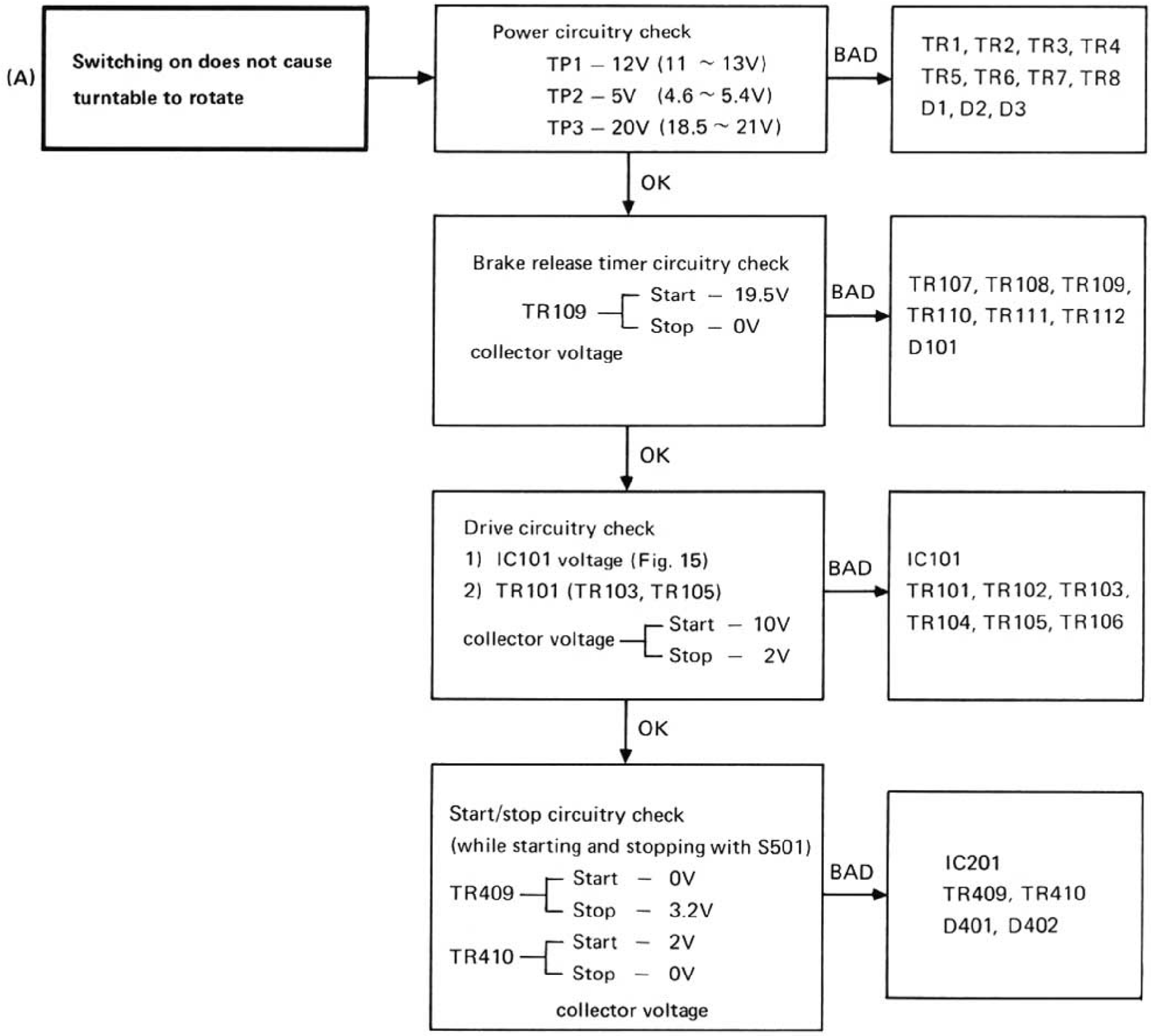
TR409	2SC828
E	[illegible]
C	[illegible]
B	[illegible]

TR410	2SC828
E	0 V
C	1.2 V
B	0 V

■ BLOCK DIAGRAM

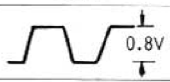
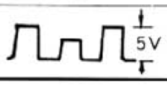

D202
r.p.m Indication
S201 (33r.p.m)
S202 (45r.p.m)
Crystal
IC201 (DN860)
14
13
12
D210
~
D204
IC202 (AN660)
X201
2
1/16
1/54, 1/40
1/6
1/12
F-V
10
9
16
Start/Stop
1/8
Strobosope Illumination
1
13
16
Shaping
Phase Control
Schmitt
Speed Control
7
6
5
4
6
7
26
23
21
11
8
4
6
VCO
1/1000
1/1000±N
P.C
TR301~303
22
TR201,202,207
Brake Circuit
IC301
(MN6042)
BCD2-digit Counter
Indication Drive
Start/Stop Logic
TR409,410
S401
Start
Switch
S402
Stop
Switch
27
2
3
D303
Pitch Indication
S303
(reset)
S302
(up)
FG
S301 (down)
FG AMP
TR203~205
IC101
(AN640)
21
18
50KHz O.S.C
Position Detection Coil
15
13
11
Three-phase Full Wave Both-Direction Drive Circuitry
5
4
TR101,103,105
+20V
+12V
+5V
Brake Release Timer
Reference Voltage
Power Circuitry
AC
50/60 Hz
PNP type Driver
Armature Drive Coil
NPN type Driver
TR107~TR110
TR1~TR8
TR102,104,106

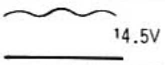
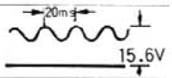
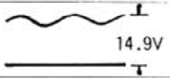
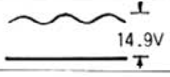
■ TROUBLE SHOOTING

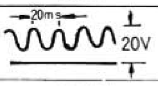

(A)
Switching on does not cause turntable to rotate
Power circuitry check
TP1 – 12V (11 ~ 13V)
TP2 – 5V (4.6 ~ 5.4V)
TP3 – 20V (18.5 ~ 21V)
BAD
TR1, TR2, TR3, TR4
TR5, TR6, TR7, TR8
D1, D2, D3
OK
Brake release timer circuitry check
TR109
Start – 19.5V
Stop – 0V
collector voltage
BAD
TR107, TR108, TR109,
TR110, TR111, TR112
D101
OK
Drive circuitry check
1) IC101 voltage (Fig. 15)
2) TR101 (TR103, TR105)
collector voltage
Start – 10V
Stop – 2V
BAD
IC101
TR101, TR102, TR103,
TR104, TR105, TR106
OK
Start/stop circuitry check
(while starting and stopping with S501)
TR409
Start – 0V
Stop – 3.2V
TR410
Start – 2V
Stop – 0V
collector voltage
BAD
IC201
TR409, TR410
D401, D402

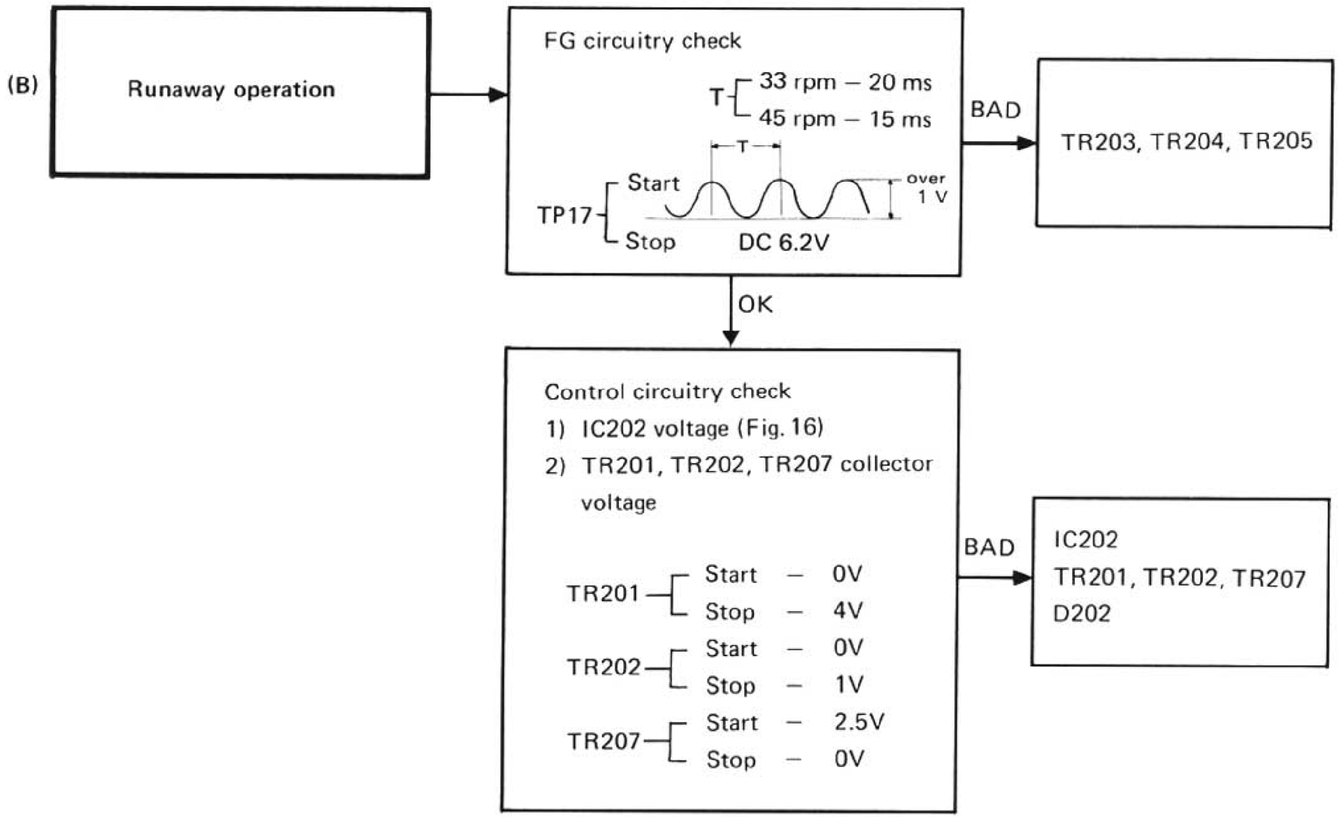
Reference voltage of each pin of IC101

(Fig. 15)

	Start	Stop
① ② ③		0.1 V
④	5.8 V	6.1 V
⑤	5.9 V	10.5 V
⑥	4.7 V	2.2 V
⑦	4.9 V	4.9 V
⑧	20.5 V	20.5 V
⑨		0.2 V

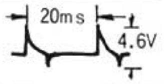
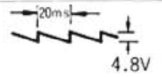
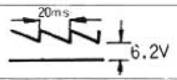
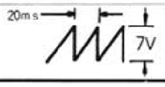
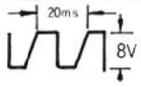
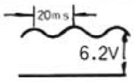
	Start	Stop
⑩		15.2 V
⑪ ⑬ ⑮		Same as at left
⑫		15 V
⑭		15 V
⑯	0 V	0 V

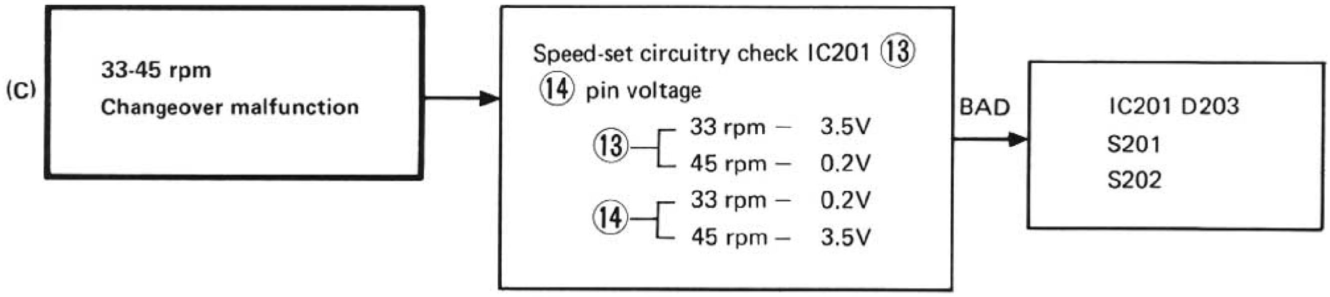
	Start	Stop
⑰	15.5 V	15.5 V
⑱		Same as at left
⑲	20.6 V	20.6 V
⑳	15.3 V	1.4 V
㉑	20.5 V	16.4 V
㉒ ㉓ ㉔	20 V	20 V

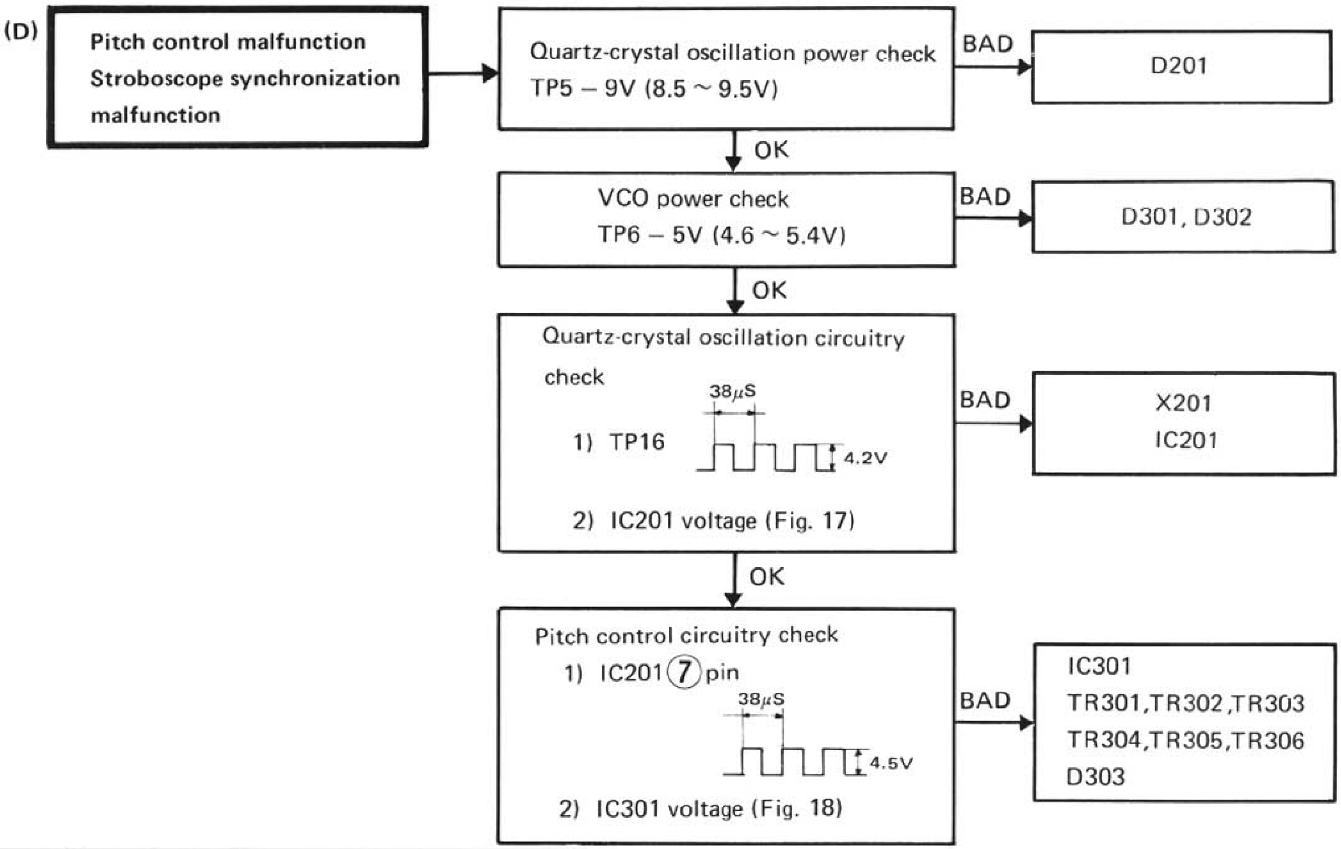

(B)
Runaway operation
FG circuitry check
T
33 rpm – 20 ms
45 rpm – 15 ms
T
TP17
Start
Stop
over 1 V
DC 6.2V
BAD
TR203, TR204, TR205
OK
Control circuitry check
1) IC202 voltage (Fig. 16)
2) TR201, TR202, TR207 collector voltage
TR201 Start – 0V
TR201 Stop – 4V
TR202 Start – 0V
TR202 Stop – 1V
TR207 Start – 2.5V
TR207 Stop – 0V
BAD
IC202
TR201, TR202, TR207
D202

Reference voltage of each pin of IC202

(Fig. 16)

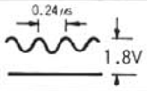
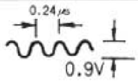
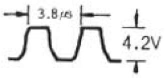
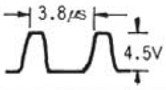
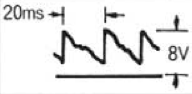
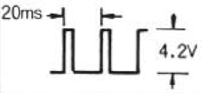
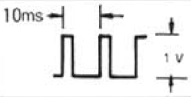
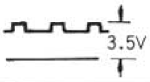
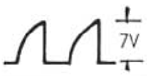
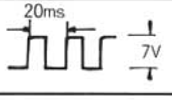
	Start	Stop
①		0 V
②	Same at TP18	0 V
③		6.1 V
④	6.6 V	6.2 V
⑤	11.7 V	11.7 V
⑥	6.3 V	6.3 V
⑦	5.8 V	10.5 V
⑧	6.3 V	5.0 V
⑨		7.1 V
⑩	0 V	0 V
⑪		7.5 V
⑫	2.1 V	2.7 V
⑬	2.1 V	2.7 V
⑭		7.5 V
⑮	11.7 V	11.7 V
⑯		5.5 V


(C)
33-45 rpm
Changeover malfunction
Speed-set circuitry check IC201 ⑬ ⑭ pin voltage
⑬ 33 rpm – 3.5V
⑬ 45 rpm – 0.2V
⑭ 33 rpm – 0.2V
⑭ 45 rpm – 3.5V
BAD
IC201 D203
S201
S202


(D)
Pitch control malfunction
Stroboscope synchronization malfunction
Quartz-crystal oscillation power check
TP5 – 9V (8.5 ~ 9.5V)
BAD
D201
OK
VCO power check
TP6 – 5V (4.6 ~ 5.4V)
BAD
D301, D302
OK
Quartz-crystal oscillation circuitry check
1) TP16
38μS
4.2V
2) IC201 voltage (Fig. 17)
BAD
X201
IC201
OK
Pitch control circuitry check
1) IC201 ⑦ pin
38μS
4.5V
2) IC301 voltage (Fig. 18)
BAD
IC301
TR301,TR302,TR303
TR304,TR305,TR306
D303

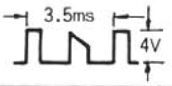
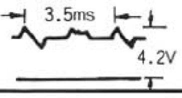
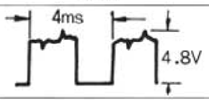
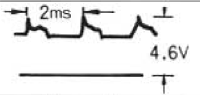
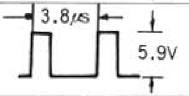
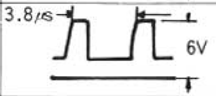
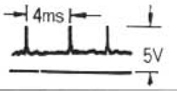
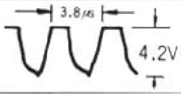
Reference voltage of each pin of IC201

(Fig. 17)

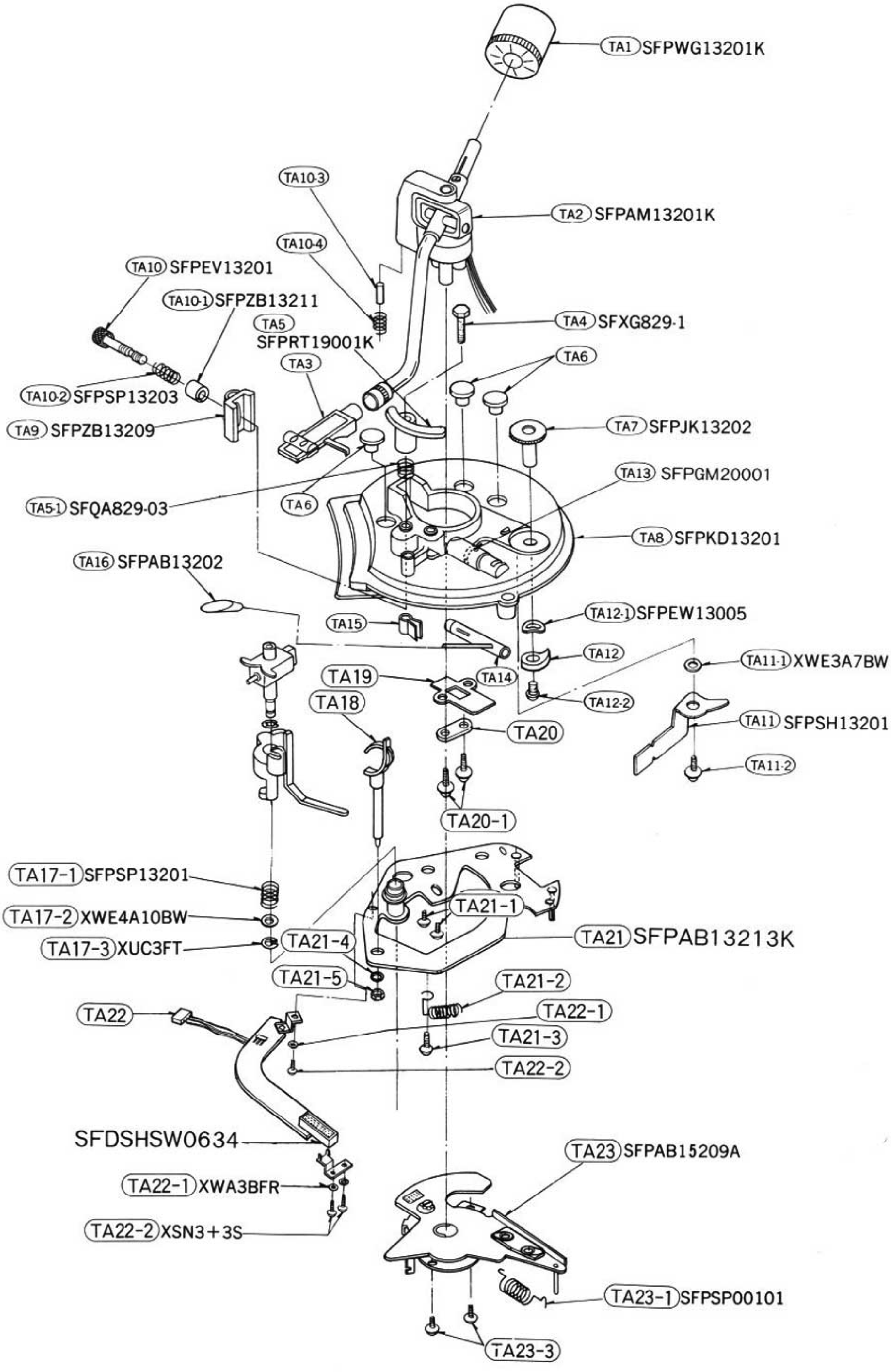
	Start	Stop
①	9.4V	9.4V
②		Same as at left
③		Same as at left
④	0 V	3.2V
⑤	2.0V	0 V
⑥		Same as at left
⑦		Same as at left
⑧		0 V
⑨		4.3V
⑩		Same as at left
⑪	0 V	0 V
⑫	6 V	6 V
⑬		Same as at left
⑭	0.2V	0.2V
⑮		Same as at left
⑯		0 V

Reference voltage of each pin of IC301

(Fig. 18)

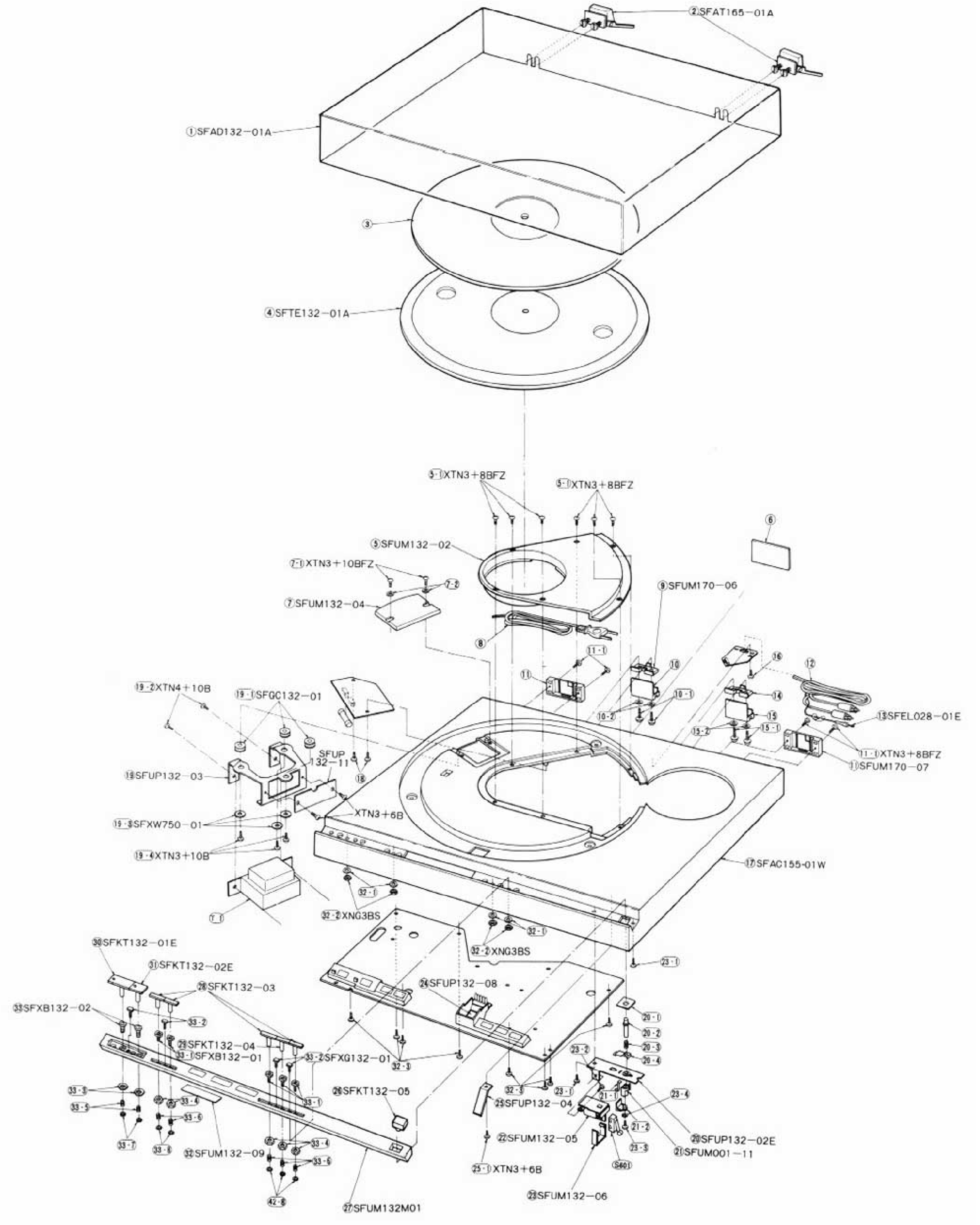
	Start	Stop
① ② ③	4.9V	4.9V
④⑧ ⑤⑨ ⑥⑩ ⑦	0 V	0 V
⑩⑬ ⑪⑭ ⑫⑮		Same as at left
⑯		Same as at left
⑰ ⑱		Same as at left
⑳		Same as at left
㉑		Same as at left
㉒		Same as at left
㉓	2.4V	Same as at left
㉔	2.4V	Same as at left
㉕		Same as at left
㉖		Same as at left
㉗	5 V	5 V
㉘	5 V	5 V

■ EXPLODED VIEW

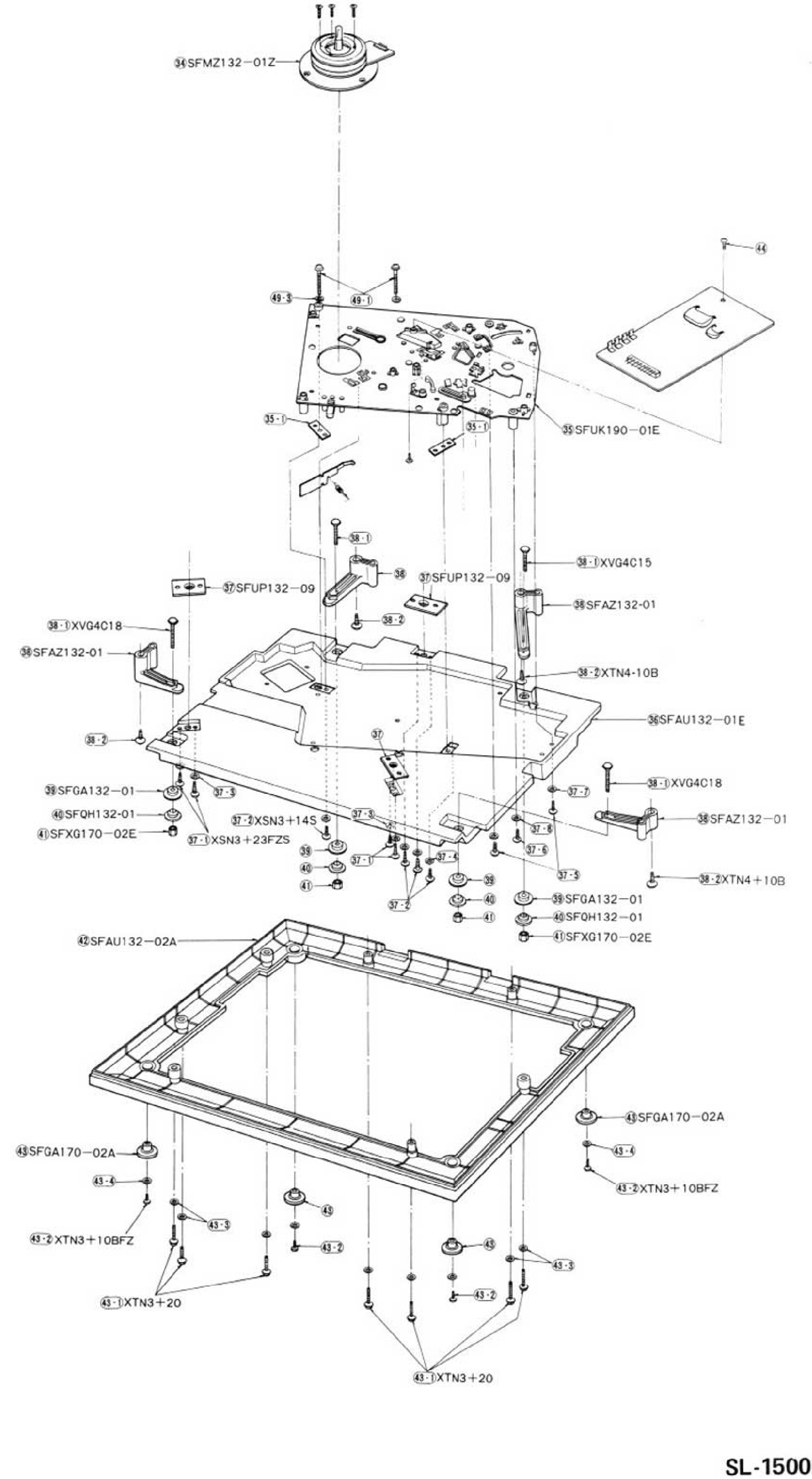


TA1 SFPWG13201K
TA10-3
TA2 SFPAM13201K
TA10-4
TA10 SFPEV13201
TA10-1 SFPZB13211
TA5 SFPRT19001K
TA4 SFXG829-1
TA3
TA6
TA10-2 SFPSP13203
TA9 SFPZB13209
TA7 SFPJK13202
TA13 SFPGM20001
TA5-1 SFQA829-03
TA6
TA8 SFPKD13201
TA16 SFPAB13202
TA12-1 SFPEW13005
TA15
TA12
TA11-1 XWE3A7BW
TA19
TA14
TA12-2
TA18
TA11 SFPSH13201
TA20
TA11-2
TA20-1
TA17-1 SFPSP13201
TA21-1
TA17-2 XWE4A10BW
TA21 SFPAB13213K
TA17-3 XUC3FT
TA21-4
TA21-5
TA21-2
TA22
TA22-1
TA21-3
TA22-2
SFDSHSW0634
TA23 SFPAB15209A
TA22-1 XWA3BFR
TA22-2 XSN3+3S
TA23-1 SFPSP00101
TA23-3

■ EXPLODED VIEW


②SFAT165−01A
①SFAD132−01A
③
④SFTE132−01A
5-1 XTN3＋8BFZ
5-1 XTN3＋8BFZ
⑥
⑤SFUM132−02
7-1 XTN3＋10BFZ
7-2
⑦SFUM132−04
⑨SFUM170−06
⑧
11-1
⑪
⑩
10-1
10-2
⑯
⑫
⑭
⑮
15-2
15-1
⑬SFEL028−01E
11-1 XTN3＋8BFZ
⑪SFUM170−07
19-2 XTN4＋10B
19-1 SFGC132−01
SFUP 132−11
⑱
⑲SFUP132−03
XTN3＋6B
19-3 SFXW750−01
19-4 XTN3＋10B
⑰SFAC155-01W
T1
32-1
32-2 XNG3BS
32-1
32-2 XNG3BS
23-1
㉚SFKT132−01E
㉛SFKT132−02E
㉘SFKT132−03
㉔SFUP132−08
㉝SFXB132−02
33-2
20-1
20-2
20-3
20-4
㉙SFKT132−04
33-1 SFXB132−01
33-2 SFXG132−01
32-3
23-2
33-3
33-4
33-1
㉖SFKT132−05
32-3
23-1
21-1
23-4
33-5
33-6
㉕SFUP132−04
21-2
33-7
33-8
㉜SFUM132−09
33-4
33-6
㉒SFUM132−05
23-3
⑳SFUP132−02E
㉑SFUM001−11
S401
25-1 XTN3＋6B
42-8
㉗SFUM132M01
㉓SFUM132−06

■ EXPLODED VIEW



㉞SFMZ132−01Z
㊹
㊾-3
㊾-1
㉟-1
㉟-1
㉟SFUK190−01E
㊳-1
㊳-1XVG4C15
㊳
㊲SFUP132−09
㊲SFUP132−09
㊳-2
㊳-1XVG4C18
㊳SFAZ132-01
㊳SFAZ132-01
㊳-2XTN4-10B
㊱SFAU132−01E
㊳-2
㊲
㊴SFGA132−01
㊲-3
㊲-7
㊳-1XVG4C18
㊵SFQH132-01
㊲-2XSN3+14S
㊲-3
㊲-8
㊳SFAZ132−01
㊶SFXG170−02E
㊲-1XSN3+23FZS
㊴
㊲-1
㊲-4
㊲-6
㊵
㊲-5
㊳-2XTN4+10B
㊶
㊴
㊲-2
㊵
㊴SFGA132−01
㊶
㊵SFQH132−01
㊶SFXG170−02E
㊷SFAU132−02A
㊸SFGA170−02A
㊸SFGA170−02A
㊸-4
㊸-4
㊸-2XTN3+10BFZ
㊸-2XTN3+10BFZ
㊸
㊸-3
㊸-2
㊸
㊸-3
㊸-2
㊸-1XTN3+20
㊸-1XTN3+20

■ REPLACEMENT PARTS LIST

Important Safety Notice

Components identified by shaded area have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

Note: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.

2. SL-1500MK2(M) ——→ (M)
SL-1500MK2(MC) ——→ (MC)

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
		INTEGRATED CIRCUITS		
IC101	AN640	Drive Circuit	1	
IC201	DN860	Frequency Divider Circuit	1	
IC202	AN660	Control Circuit	1	
IC301	MN6042	Pitch Control Circuit	1	
		TRANSISTORS		
TR1, 4, 7	**2SC1826-Y**	Transistors (Use in ranks O or Y or G)	3	
TR2, 3, 6, 8,	2SC1328G	Transistors	4	
TR5	**2SC1384A-Q**	Transistor (Use in ranks Q or R or S)	1	
TR101	**2SA752-Q**	Transistor **(Use in pair ranks Q or R or S)**	1	
TR102	**2SC1406-Q**	Transistor	1	
TR103	**2SA752-Q**	Transistor **(Use in pair ranks Q or R or S)**	1	
TR104	**2SC1406-Q**	Transistor	1	
TR105	**2SA752-Q**	Transistor **(Use in pair ranks Q or R or S)**	1	
TR106	**2SC1406-Q**	Transistor	1	
TR107, 108, 111 301, 302	**2SA666AI-R**	Transistor (Use in ranks Q or R or S)	5	
TR109, 110, 112, 201, 202, 203, 204, 205, 206, 207, 303, 409, 410	**2SC1328-T**	Transistor	13	
TR304, 305, 306	**2SA719-P**	Transistors (Use in ranks P or Q or R or S)	3	
		DIODES		
D1, 2	SVDSIRBA20	Rectifier	2	
D3, 301	SVDRD5.1EBS	5.1V Zener, Voltage Stabilizer	2	
D101, 202, 302,	MA150	Diodes	3	
D201	SVDRD9.1EBS	9.1V Zener, Voltage Stabilizer	1	
D203	SVDGL-7R204	Light Emitting Diode (r.p.m)	1	
D204, 205, 206, 207, 208, 209, 210, 401, 402	SVDSR105C	Light Emitting Diode	9	
D303	SVDGL-7R203	Light Emitting Diode (pitch)	1	
		CRYSTAL		
X204	SVQU306115	4.19328MHz Oscillater	1	
		TRANSFORMER		
T1	SLT60EU3B	Power Transformer	1	
		FUSE		
F1	XBA2E04NU100	400mA (Fuse)	1	
F2 (MC only)	XBA2E10NU100	1A (Fuse)	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
		SWITCHES		
S201, 202	EVQP4R04K	Speed Selector Switches	2	
S301, 302, 303	EVQP4R04K	Pitch Control Switches	3	
S401, 402	EVQP4R04K	Start or Stop Switches	2	
S601	SFDSSS5GL2	Power Switch	1	
	SFDSHSW0634	Switch, Muting	1	
		RESISTORS		
R1	**ERD25TJ562**	Carbon, 5.6kΩ, 1/4W, ± 5%	1	
R2	**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%	1	
R3	**ERD25TJ152**	Carbon, 1.5kΩ, 1/4W, ± 5%	1	
R4	**ERD25TJ151**	Carbon, 150Ω, 1/4W, ± 5%	1	
R5	**ERD25TJ152**	Carbon, 1.5kΩ, 1/4W, ± 5%	1	
R6	**ERD25TJ562**	Carbon, 5.6kΩ, 1/4W, ± 5%	1	
R7	**ERD25TJ123**	Carbon, 12kΩ, 1/4W, ± 5%	1	
R8	**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%	1	
R9	**ERG3ANJ470**	Metal Film, 47Ω, 3W, ± 5%	1	
R101, 102, 103	**ERX1ANJ470**	Metal Film, 47Ω, 1W, ± 5%	3	
R104, 105, 106	**ERX1ANJ150**	Metal Film, 15Ω, 1W, ± 5%	3	
R107	**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%	1	
R108	**ERD25TJ392**	Carbon, 3.9kΩ, 1/4W, ± 5%	1	
R109	**ERD25TJ150**	Carbon, 15Ω, 1/4W, ± 5%	1	
R110, 111	**ERD25TJ103**	Carbon, 10kΩ, 1/4W, ± 5%	2	
R112	**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%	1	
R113	**ERX1ANJ1R8**	Metal Film, 1.8Ω, 1W, ± 5%	1	
R114	**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%	1	
R115	**ERD25TJ103**	Carbon, 10kΩ, 1/4W, ± 5%	1	
R116	**ERD25TJ332**	Carbon, 3.3kΩ, 1/4W, ± 5%	1	
R117	**ERD25TJ103**	Carbon, 10kΩ 1/4W, ± 5%	1	
R118	**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%	1	
R119	**ERD25TJ104**	Carbon 100kΩ, 1/4W, ± 5%	1	
R120	**ERD25TJ563**	Carbon, 56kΩ, 1/4W, ± 5%	1	
R121	**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%	1	
R122, 123	**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%	2	
R124	**ERD25TJ103**	Carbon, 10kΩ, 1/4W, ± 5%	1	
R125	**ERD25TJ393**	Carbon, 39kΩ, 1/4W, ± 5%	1	
R126	**ERD25TJ103**	Carbon, 10kΩ, 1/4W, ± 5%	1	
R201	**ERX1ANJ101**	Metal Film, 100Ω, 1W, ± 5%	1	
R202	**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%	1	
R203	**ERD25TJ393**	Carbon, 39kΩ, 1/4W, ± 5%	1	
R204	**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%	1	
R205	**ERD25TJ471**	Carbon, 470Ω, 1/4W, ± 5%	1	
R206, 207	**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%	2	
R208	**ERD25TJ563**	Carbon, 56kΩ, 1/4W, ± 5%	1	
R209	**ERD25TJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%	1	
R210	**ERD25TJ151**	Carbon, 150Ω, 1/4W, ± 5%	1	
R211	**ERD25TJ221**	Carbon, 220Ω, 1/4W, ± 5%	1	
R212	**ERD25TJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%	1	
R213	**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%	1	
R214	**ERD25TJ563**	Carbon, 56kΩ, 1/4W, ± 5%	1	
R215	**ERD25TJ823**	Carbon, 82kΩ, 1/4W, ± 5%	1	
R216	**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%	1	
R217	**ERD25TJ123**	Carbon, 12KΩ, 1/4W, ± 5%	1	
R218	**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R219, 220	**ERD25TJ471**	Carbon, 470Ω, 1/4W, ± 5%	2	
R221	**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%	1	
R222	**ERD25TJ563**	Carbon, 56kΩ, 1/4W, ± 5%	1	
R223	**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%	1	
R224	**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%	1	
R225	**ERD25TJ101**	Carbon, 100Ω, 1/4W, ± 5%	1	
R226	**ERD25TJ681**	Carbon, 680Ω, 1/4W, ± 5%	1	
R227	**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%	1	
R228	**ERD25TJ563**	Carbon, 56kΩ, 1/4W, ± 5%	1	
R229	**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%	1	
R230	**ERD25TJ103**	Carbon, 10kΩ, 1/4W, ± 5%	1	
R231	**ERD25TJ121**	Carbon, 120Ω, 1/4W, ± 5%	1	
R232	**ERD25TJ680**	Carbon, 68Ω, 1/4W, ± 5%	1	
R233	**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%	1	
R234	**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%	1	
R301	**ERD25TJ391**	Carbon, 390Ω, 1/4W, ± 5%	1	
R302	**ERD25TJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%	1	
R303	**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%	1	
R304	**ERD25TJ103**	Carbon, 10kΩ, 1/4W, ± 5%	1	
R305	**ERD25TJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%	1	
R306	**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%	1	
R307	**ERD25TJ332**	Carbon, 3.3kΩ, 1/4W, ± 5%	1	
R308	**ERD25TJ273**	Carbon, 27kΩ, 1/4W, ± 5%	1	
R309, 310	**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%	2	
R311	**ERD25TJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%	1	
R312, 313	**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%	2	
R314	EXBRB7121M	Composite Resistor, 120Ω, x 7, ±20%	1	○
R315, 316, 317	**ERD25TJ152**	Carbon, 1.5kΩ, 1/4W, ± 5%	3	
R318	**ERD25TJ221**	Carbon, 220Ω, 1/4W, ± 5%	1	
R319	**ERD25TJ121**	Carbon, 120Ω, 1/4W, ± 5%	1	
R320	**ERD25TJ680**	Carbon, 68Ω, 1/4W, ± 5%	1	
R419	**ERD25TJ471**	Carbon, 470Ω, 1/4W, ± 5%	1	
R601	**ERD50TJ4R7**	Carbon, 4.7Ω, 1/2W, ± 5%	1	
R1501	**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%	1	
R1502	**ERD25TJ102**	Carbon, 1kΩ, 1/4W, ± 5%	1	

VARIABLE RESISTORS

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
VR101	**EVLS3AA00B14**	Period Adjustment	1	
VR201	**EVLS3AA00B24**	VS Adjustment	1	
VR202	**EVLS3AA00B24**	IR Adjustment	1	
VR203	**EVLS3AA00B54**	Brake Adjustment	1	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C1	**ECEB35V330**	Electrolytic, 330μF, 35V	1	
C2	**ECEA25V33**	Electrolytic, 33μF, 25V	1	
C3	**ECEA16V10**	Electrolytic, 10μF, 16V	1	
C4	**ECEA16V47**	Electrolytic, 47μF, 16V	1	
C5	**ECEB50V470**	Electrolytic, 470μF 50V	1	
C6	**ECEA25V33**	Electrolytic, 33μF, 25V	1	
C101, 102, 103	**ECEA25V33**	Electrolytic, 33μF, 25V	3	
C104	**ECQM1H104KZ**	Polyester, 0.1μF, 50V, ±10%	1	
C105	ECSZ25EF1	Electrolytic, 1μF, 25V	1	
C106	ECSZ25EF2R2	Electrolytic, 2.2μF, 25V	1	
C107	ECSZ25EF1	Electrolytic, 1μF, 25V	1	
C108	**ECQM1H223KZ**	Polyester, 0.022μF, 50V, ±10%	1	
C109	ECEA25Z100	Electrolytic, 100μF, 25V	1	
C110	**ECQM05154KZ**	Polyester, 0.15μF, 50V, ±10%	1	
C111	**ECQM1H333KZ**	Polyester, 0.033μF, 50V, ±10%	1	
C112	**ECQM1H104KZ**	Polyester, 0.1μF, 50V, ±10%	1	
C113	**ECQM1H562KZ**	Polyester, 0.0056μF, 50V, ±10%	1	
C114	**ECEA25V100**	Electrolytic, 100μF, 25V	1	
C115	**ECEA16V10**	Electrolytic, 10μF, 16V	1	
C201	ECKD1E104ZFZ	Ceramic, 0.1μF 50V	1	
C202	**ECEA25V2R2**	Electrolytic, 2.2μF, 25V	1	
C203	ECSZ25EF2R2	Electrolytic, 2.2μF, 25V	1	
C204	ECCD1H330K	Ceramic, 33pF, 50V, ±10%	1	
C205, 206	ECCD1H331K	Ceramic, 330pF, 50V, ±10%	2	
C207	**ECQM1H822KZ**	Polyester, 0.0082μF, 50V, ±10%	1	
C208, 209	ECSZ25EF1	Electrolytic, 1μF, 25V	2	
C210	**ECQM1H103KZ**	Polyester, 0.01μF, 50V, ±10%	1	
C211	**ECQM1H563KZ**	Polyester, 0.056μF, 50V, ±10%	1	
C212	**ECQM1H104KZ**	Polyester, 0.1μF, 50V, ±10%	1	
C213	**ECEA16V10**	Electrolytic, 10μF, 16V	1	
C214	**ECQM1H562KZ**	Polyester, 0.0056μF, 50V, ±10%	1	
C215	**ECQM1H562KZ**	Polyester, 0.0056μF, 50V, ±10%	1	
C216, 217	**ECQM1H104KZ**	Polyester, 0.1μF, 50V, ±10%	1	
C218	**ECQM1H562KZ**	Polyester, 0.0056μF, 50V, ±10%	1	
C219, 220	**ECQM1H104KZ**	Polyester, 0.1μF, 50V, ±10%	1	
C221	ECKD1E104ZFZ	Ceramic, 0.1μF, 50V	1	
C222	**ECEA50V4R7**	Electrolytic, 4.7μF, 50V	1	
C223	**ECEA50V1**	Electrolytic, 1μF, 50V	1	
C224	**ECEA16V10**	Electrolytic, 10μF, 50V	1	
C225	**ECQM1H473KZ**	Polyester, 0.047μF, 50V, ±10%	1	
C226, 227	**ECQM1H104KZ**	Polyester, 0.1μF, 50V, ±10%	2	
C228	**ECEA16V47**	Electrblytic, 47μF, 16V	1	
C229	**ECQM1H103KZ**	Polyester, 0.01μF, 50V, ±10%	1	
C230	**ECQM1H102KZ**	Polyester, 0.001μF, 50V, ±10%	1	
C231	ECKD1E104ZFZ	Ceramic, 0.1μF, 50V,	1	
C301	**ECEA16V10**	Electrolytic, 10μF, 16V	1	
C302	**ECQM1H102KZ**	Polyester, 0.001μF, 50V, ±10%	1	
C303	**ECQM1H103KZ**	Polyester, 0.01μF, 50V, ±10%	1	
C304	**ECEA50V4R7**	Electrolytic, 4.7μF, 50V	1	
C305	**ECQM1H103KZ**	Polyester, 0.01μF, 50V, ±10%	1	
C306	**ECQM1H104KZ**	Polyester, 0.1μF, 50V, ±10%	1	
C307	ECKD1E104ZFZ	Ceramic, 0.1μF, 50V	1	
C308	**ECEA6V220**	Electrolytic, 220μF, 6V	1	
C310	**ECQM1H102KZ**	Polyester, 0.001μF, 50V, ±10%	1	
C601 [M]	ECQF1A473MD	Polyester, 0.047μF, 125V, ±20%	1	
C601 [MC]	ECQU1A473MC	Polyester, 0.047μF, 125V, ±20%	1	

CABINET and CHASSIS PARTS

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
1	SFAD132-01A	Dust Cover	1	
2	SFAT165-01A	Hinge Ass'y	2	
3 [M]	SFTG170M01	Turntable Mat	1	
3 [MC]	SFTG170-01	Turntable Mat	1	
4	SFTE132-01A	Turntable	1	
5	SFUM132-02	Cover, Panel	1	
5-1	**XTN3+8BFZ**	Screw, Panel Cover	6	
6 [M]	SFNN155M01	Name Plate	1	*○
6 [MC]	SFNN155C01	Name Plate	1	*○
7	SFUM132-04	Cover, Transformer	1	

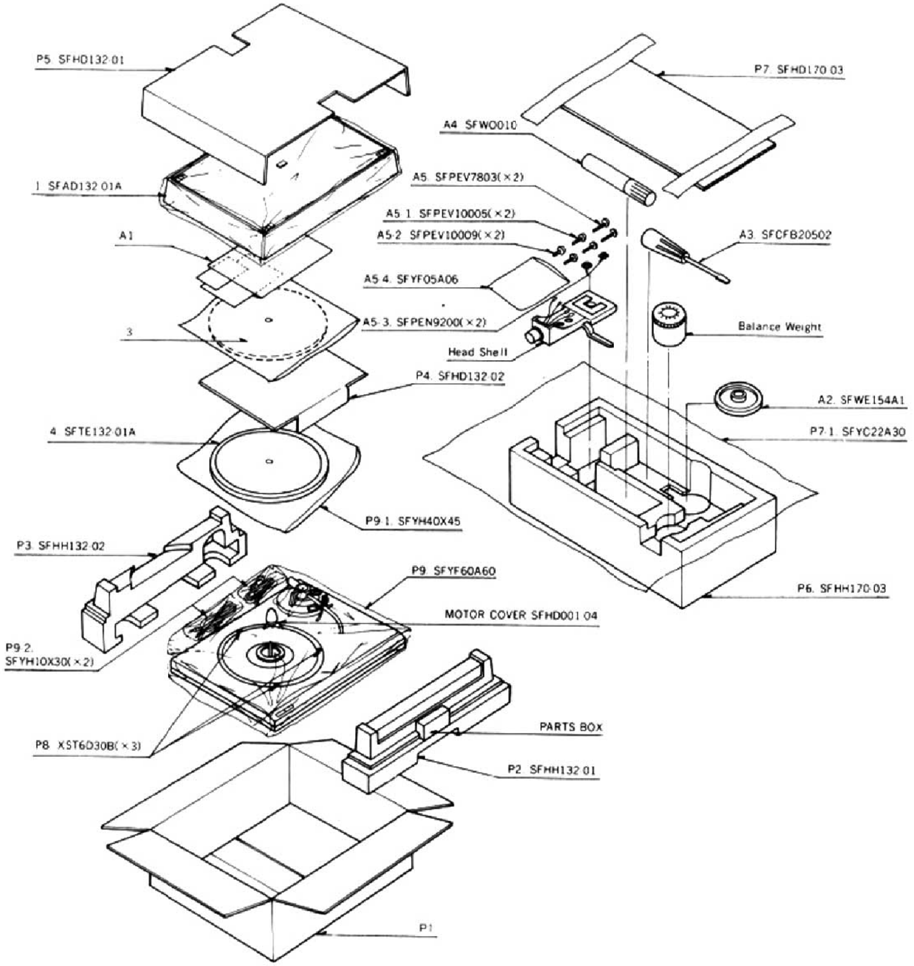
Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
7-1	**XTN3+10BFZ**	Screw, Transformer Cover	2	
7-2	**XWG3**	Washer, Transformer Cover	2	
8	**RJA10A**	AC Cord	1	
9	SFUM170-06	Spacer, AC Power Cord	1	
10	SFUM170-05	Bracket, AC Power Cord	1	
10-1	**XTN3+14BFZ**	Screw, AC Cord Bracket	2	
10-2	**XWG3**	Washer, AC Cord Bracket	2	
11	SFUM170-07	Case, Hinge Ass'y	2	
11-1	**XTN3+8BFZ**	Screw, Hinge Ass'y Case	4	
12 [M]	SFDH360M01	Phono Cord	1	
12 [MC]	SFDH028-01	Phono Cord	1	
13	SFEL028-01E	Ground Wire	1	
14	SFUM170-06	Spacer, Phono Cord	1	
15	SFUM170-11	Bracket, Phono Cord	1	
15-1	**XTN3+14BFZ**	Screw, Phono Cord Bracket	2	
15-2	**XWG3**	Washer, Phono Cord Bracket	2	
16	**XTN3+8B**	Screw, Phono Cord P.C.B.	1	
17	SFAC155-01W	Cabinet	1	○
17-1	SFUZ132-03	Sheet, Panel Cover	1	○
18	**XTN3+8B**	Screw, P.C.B.	2	
19	SFUP132-03	Bracket, Power Transformer	1	
19-1	SFGC132-01	Spacer (Rubber), Power Transformer Bracket	3	
19-2	**XTN4+10B**	Screw, Power Transformer	2	
19-3	SFXW750-01	Washer, Power Transformer Bracket	3	
19-4	**XTN3+10B**	Screw, Power Transformer Bracket	3	
19-5	SFUP132-11	Plate, Shield	1	
20	SFUP132-02E	Bracket, Power Switch	1	
20-1	SFUZ132-02	Felt, Power Switch Knob	1	
20-2	SFXJ132-03	Support, Power Switch Knob	1	
20-3	SFQA001-02	Spring, Power Switch Knob	1	
20-4	SFUP001-10	Support, Power Switch Knob	1	
21	SFUM001-11	Cam, Power Switch	1	
21-1	SFUP001-12	Support, Power Switch	1	
21-2	SFUM132-07	Cam, Power Switch Cam	1	
22	SFUM132-05	Holder, Power Switch	1	
23	SFUM132-06	Holder, Power Switch	1	
23-1	**XTN3+8B**	Screw, Power Switch Bracket	2	
23-2	**XTN3+16B**	Screw, Power Switch Holder	1	
23-3	**XSN3+10S**	Screw, Power Switch Cam	1	
23-4	**XWC3B**	Washer, Power Switch Cam	1	
24	SFUP132-08	Mirror	1	
25	SFUP132-04	Bracket, Panel	1	
25-1	**XTN3+6B**	Screw, Panel Bracket	1	
26	SFKT132-05	Knob, Power Switch	1	
27	SFUM155M01	Panel	1	○
28	SFKT132-03	Knob, Operation	4	
29	SFKT132-04	Knob, Operation	1	
30	SFKT132-01E	Knob, Operation	1	
31	SFKT132-02E	Knob, Operation	1	
32	SFUM132-09	Felt	1	
32-1	**XWA3B**	Washer, Panel	4	
32-2	**XNG3BS**	Nut, Panel	4	
32-3	**XTN3+8B**	Screw, P.C.B.	8	
33	SFXB132-02	Spacer, Operation	2	
33-1	SFXB132-01	Spacer, Operation	5	
33-2	SFXG132-01	Screw, Operation	4	
33-3	**XNS6JM**	Nut, Operation Spacer	2	
33-4	**XNG4HS1**	Nut, Operation Spacer	5	
33-5	SFQA132-01	Spring, Operation Knob	2	
33-6	SFQA132-02	Spring, Operation Knob	5	
33-7	**XUC3FT**	Circlip, Operation Knob	2	
33-8	**XUC25FT**	Circlip, Operation Knob	5	
34	SFMZ132-01Z	D.D. Motor Ass'y	1	
35	SFUK190-01E	Base, Automatic Mechanism	1	
35-1	SFUP190-02	Bracket, Automatic Mechanism Base	2	
36	SFAU132-01E	Base, Main	1	
37	SFUP132-09	Bracket, Main Base	3	
37-1	**XSN3+23FZS**	Screw, Main Base Bracket	4	
37-2	**XSN3+14S**	Screw, Main Base Bracket	4	
37-3	**XWG3**	Washer, Main Base Bracket	4	
37-4	**XWG3**	Washer, Main Base Bracket	4	
37-5	**XTN4+35B**	Screw, Main Base	2	
37-6	**XTN3+35B**	Screw, Main Base	6	
37-7	**XWG4**	Washer, Main Base	2	
37-8	**XWG3**	Washer, Main Base	6	
38	SFAZ132-01	Insulator (A)	4	
38-1	XVG4C18	Screw, Insulator (A)	4	
38-2	**XTN4+10B**	Screw, Insulator (A)	4	
39	SFGA132-01	Rubber, Insulator (A)	4	
40	SFQH132-01	Spring, Insulator (A)	4	
41	SFXG170-02E	Nut, Insulator (A)	4	
42	SFAU132-02A	Bottom, Cover	1	
43	SFGA170-02A	Insulator (B)	4	
43-1	**XTN3+20**	Screw, Bottom Cover	7	
43-2	**XTN3+10BFZ**	Screw, Insulator (B)	4	
43-3	**XWG3**	Washer, Bottom Cover	7	
43-4	**XWG4**	Washer, Insulator (B)	4	
44	**XTN3+8B**	Screw, P.C.B.	1	

TONE ARM and ARM BASE

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
TA1	SFPWG13201K	Balance Weight Ass'y	1	
TA2	SFPAM13201K	Tone Arm Ass'y	1	
TA3	SFPCC10001K	Head Shell	1	
TA4	SFXG829-1	Screw, Tone Arm Lift Adjustment	1	
TA5	SFPRT19001K	Lift Ass'y	1	
TA5-1	SFQA829-03	Spring, Lift Ass'y	1	
TA6 [M]	SFGK132M01	Cap, Rubber	3	
TA6 [MC]	SFGK132-01	Cap, Rubber	3	
TA7	SFPJK13202	Knob, Anti-skate Force Control	1	
TA8	SFPKD13201	Arm Base	1	
TA9	SFPZB13209	Bracket, Tone Arm	1	
TA10	SFPEV13201	Screw, Tone Arm Bracket	1	
TA10-1	SFPZB13211	Cover, Spring	1	
TA10-2	SFPSP13203	Spring, Tone Arm Bracket Screw	1	
TA10-3	SFPZB13212	Pin, Tone Arm Bracket Screw	1	
TA10-4	SFPSP13204	Spring, Tone Arm Bracket Screw	1	
TA11	SFPSH13201	Support, Anti-skate Force Control	1	
TA11-1	XWE3A7BW	Washer, Anti-skate Force Control Support	1	
TA11-2	XTN3+5B	Screw, Anti-skate Force Control Support	1	
TA12	SFPJK17002	Cam, Anti-skate Force Control	1	
TA12-1	SFPEW13005	Washer, Anti-skate Force Control Knob	1	
TA12-2	XTN26+5B	Screw, Anti-skate Force Control Knob	1	

PACKINGS

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
TA13	SFPGM20001	Rubber, Cueing Lever	1	
TA14	SFPJL13201K	Cueing Lever Ass'y	1	
TA15	SFPZB13204	Plate, Arm Rest	1	
TA16	SFPAB13202	Knob, Arm Lift	1	
TA17	SFPJL13203K	Lift Bar Ass'y	1	
TA17-1	SFPSP13201	Spring, Arm Lift Base	1	
TA17-2	XWE4A10BW	Washer, Arm Lift Base	1	
TA17-3	**XUC3FT**	Circlip, Arm Lift Base	1	
TA18	SFPRT13201K	Arm Rest	1	
TA19	SFPAB13203	Plate, Lift	1	
TA20	SFPZB13208	Support, Lift	1	
TA20-1	**XTN3+5B**	Screw, Lift Support	2	
TA21	SFPAB13213K	Base, Arm Lift	1	
TA21-1	**XSN3+5S**	Screw, Arm Lift Base	2	
TA21-2	SFPSP13202	Spring	1	
TA21-3	**XSN3+3S**	Screw, Spring	1	
TA21-4	**XWA26B**	Washer, Arm Rest	1	
TA21-5	**XNG26BFN**	Nut, Arm Rest	1	
TA22 [M]	SFPAB13218K	PU Output Cord Ass'y	1	
TA22 [MC]	SFPAB13215K	PU Output Cord Ass'y	1	
TA22-1	XWA3B	Washer, P.C.B. Ass'y	2	
TA22-2	XSN3+3S	Screw, P.C.B. Ass'y	2	
TA23	SFPAB15209A	Tone Arm Fixing Plate Ass'y	1	
TA23-1	SFPSP00101	Spring, Anti-Skating	1	
			1	
TA23-3	**XSN3+6S**	Screw	2	
		ACCESSORIES		
A1 [M]	SFNU155M01	Instruction Book	1	○
A1 [MC]	SFNU155C01	Instruction Book	1	○
A2	SFWE154A1	Adaptor, 45 r.p.m	1	
A3	SFCFB20502	Screw driver	1	
A4	SFWO010	Oil	1	
A5	SFPEV7803	Screw, Cartridge	2	
A5-1	SFPEV10005	Screw, Cartridge	2	
A5-2	SFPEV10009	Screw, Cartridge	2	
A5-3	SFPEN9200	Nut, Cartridge	2	
A5-4	SFYF05A06	Polyethylene Bag	1	
		PACKING PARTS		
P1 [M]	SFHP155M01	Carton	1	
P1 [MC]	SFHP155C01	Carton	1	
P2	SFHH132-01	Pad, Front	1	
P3	SFHH132-02	Pad, Rear	1	
P4	SFHD132-02	Pad, Turntable	1	
P5	SFHD132-01	Pad, Top	1	
P6	SFHH170-03	Parts Box	1	
P7	SFHD170-03	Pad, Top, Parts Box	1	
P7-1	SFYC22A30	Polyethylene Cover	1	
P8	XST6D30B	Screw, Clamp	3	
P9	SFYF60A60	Polyethylene Bag, Player Unit	1	
P9-1	SFYH40X45	Polyethylene Bage Turntable	1	
P9-2	SFYH10X30	Polyethylene Bag, AC Cord	2	


P5. SFHD132-01
P7. SFHD170-03
A4. SFWO010
1. SFAD132-01A
A5. SFPEV7803(×2)
A5-1. SFPEV10005(×2)
A5-2. SFPEV10009(×2)
A1
A3. SFCFB20502
A5-4. SFYF05A06
A5-3. SFPEN9200(×2)
3
Balance Weight
Head Shell
P4. SFHD132-02
A2. SFWE154A1
4. SFTE132-01A
P7-1. SFYC22A30
P9-1. SFYH40X45
P3. SFHH132-02
P9. SFYF60A60
P6. SFHH170-03
MOTOR COVER SFHD001-04
P9-2. SFYH10X30(×2)
PARTS BOX
P8. XST6D30B(×3)
P2. SFHH132-01
P1

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